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The Journal of Higher Education MARCH, 1932 II

Claremont Colleges

By N. W. STEPHENSON

A Unique Federation among Institutions of Higher Education

IS SOMETHING wrong with the American university system? is a question being asked everywhere. It has even become news in the daily paper. The University of Chicago proposes a departure from conventional methods, and it gets a front-page place in many of the public prints. What a to-do there was when Harvard made its rather startling changes a few years ago, when Wisconsin played the boldest trump yet in giving a free hand to Mr. Meiklejohn and the experimental college, when Swarthmore made its hit with an Americanization of the Oxford "honors degree."

As a rule the answers to the challenging question assume that American university education is a failure. In some instances the gloomy pessimism of the criticism has that unreality which is so justly attributed to the genus special pleader. To those excited reformers who think everybody is wrong except themselves, it is well to whisper Browning's line, "We know in art"—and in education and in everything else—"how fashions end." Railing accusations, now as aforetime, are vain things. An able man who had served on various commissions with President Eliot once said to me that the most impressive part of Eliot's attack on a proposition was always the masterly fairness with which he stated his opponent's position. The comment was, "When a man does things that way, you feel that every objection he raises has force."

Let us admit that a great deal of the denunciation of present conditions is due to fallacious reasoning—to the American passion for short cuts, to the conception of degrees as "assets," to the desire of the crowd to be rated as educated without paying the

intellectual price of education. Let us even go further and admit that not a few of the innovations that are trumpeted by newspapers are at bottom, perhaps unconsciously, bids for publicity, efforts to swim with the stream regardless of whither the stream is tending.

Nevertheless, when all allowances have been made, a few doubts, both honest and searching, have taken form in many minds and are quietly producing realignments of purposes. Among these, four at least go to the heart of things: first of all, Does the great size of our universities make for intellectual imitation? Does it minimize the impulse to be original? Is there a standardizing impulse in the mechanism of our education with its emphasis on class attendance, on credits, on the quantitative side of things? Is mere knowledge given a false eminence at the cost of the power to think and the power to feel? Have we let the idea of formal classroom discipline —the idea of the university or college as a school in the narrow sense—so possess our thoughts that we have lost sight of the more subtle values inherent in the idea of an intellectual community, of the effects of a pervasive atmosphere?

THE people who have committed themselves to a new adventure at Claremont, in California, are among those who fear that the pressure of circumstances is in certain noted, and sometimes really eminent, institutions undermining the ideals to which those institutions fondly believe themselves to be faithful. Not to mince matters, we feel, as do many other reformers in many colleges and universities, that we are in danger, as a nation, of becoming "herd minded." All the lovers of excellence, from ocean to ocean, feel that the insidious influence of mere numbers is working a deadly hypnotism, is benumbing that thing which ought to be the most elastic thing in the world, the mind of youth, and is robbing it of one of the highest human joys, the joy inherent in the free and yet exact use of one's own mind. Whenever the pressure of the crowd is felt intellectually, there results a confusion between the question, What is correct? and the question, What is right? Correctness is based on imitation, on conformity, on the glorious principle designated by Bagehat as the doctrine of the average Briton, "What I am sayin' is this here as I was a sayin' yesterday"—herd-mindedness. Rightness is based on analysis, on individual thought, on taking risks intellectually, on the beautiful idea phrased by one of Claremont's philosophers, Professor R. C. Denison, when he said that the aim of education was "the use of the mind by the mind itself."

The Claremont reformers, though they have views of their own that they mean to try out, do not set themselves up as oracles. They leave that to the devotees of herd-mindedness. It is their joy and their consolation to believe that they are good soldiers in an army of free companions, which is gathered into various bands, each band with its own mode of attack, but all encouraging each other not to fail in the wars of the spirit against the demons of standardization. At the same time, there is a definite Clare-

mont plan, and the people who are working it out believe it is for anybody, a good plan—and for them, the best plan.

A WORD as to how it originated. Several years ago Pomona College—the parent college at Claremont—came to an inescapable parting of the ways. With a limited registration, it was piling up a waiting list that seemed to cry aloud for some change in policy. Therefore, the question was raised, Shall Pomona drop its restrictions on number and expand into a huge congregated university? The question took form just when the dissatisfaction with large student bodies got defintely formulated. At a crucial moment President James A. Blaisdell threw his influence into the scale against the creation at Claremont of a single huge centralized congregation of students. He succeeded in making his views current. The friends of Pomona decided not to expand.

President Blaisdell had scored his first main point, but this was only the introduction of his program. He wanted to draw together at Claremont a large proportion of those eager young people who wanted to come. The agitation for a mode of caring for them, other than the accepted American university mode, brought about the true turning point in the advance of Claremont toward a new system of its own which in America is distinctive. He had interested Miss Ellen Browning Scripps in the educational future of Pomona. Miss Scripps carried over her interest into the new scheme which was expanding from the single college to the vision of a diversified, intellectual community. What President Blaisdell was aiming at was a federation of colleges—a federated university, that should solve the problem of the escape from herd-mindedness and at the same time should hold fast to those intellectual values which only the community of scholars can maintain. The complete acceptance of this idea was ratified beyond recourse when Miss Scripps founded Scripps College, which was to exist side by side with Pomona, and with other colleges that immediately began to be contemplated, in the federated University of Claremont Colleges.

The founding of Scripps College has thus a significance in the history of Claremont Colleges which is central. When President Blaisdell shortly afterward withdrew from the presidency of Pomona and became the first President of Claremont Colleges, the real existence of a plural institution became an accomplished fact in American education.

There was still another crucial significance in the decisions that lay back of the founding of Scripps, however. Not the least of the questions that trouble the sincere and unsensational reformers of American education is the relative values of formal contacts and informal contacts, of the college classroom and the college atmosphere. Have we let the College become so frankly a "school" that its power of general stimulus has been lost? After all, was Lowell right, in the old days, when he said that a youth got something educationally from the mere walls of Harvard? Is there more than sneer in Emerson's remark, "You send your boy to school, but it is the

schoolboys who educate him?" Are the Englishmen justified when they give a man a pass degree for merely living at Oxford and behaving himself? Of course, all these views are subject to the unspoken reservations which the educated people who uttered or practice them take for granted. The idea back of them is plain enough. All imply a species of training that the classroom alone cannot give; all assume that residence in a community permeated by intellectual values makes for quality of mind more subtly than does anything else; all assume that intellectual fellowship, old and young together, student and scholar, is more precious than mere mental drill. In these ideas is the square rebuttal of all those theories that reduce education to mere discipline, to mere question and answer, to mere possession of knowledge. When Scripps was founded, Claremont accepted the idea that its federation was to be composed of residential colleges, that a certain duration of residence was, at least in the great majority of instances, a condition of the best success. Consequently, Scripps was made still smaller than Pomona with a membership limited to two hundred fifty.

DO YOU ask, What is this but an attempt to imitate Oxford in American conditions? Probably there is no one in Claremont who will be troubled if you pay our undertaking the high compliment of the implied suggestion. We modestly fall silent. To the extent of trying to learn a lesson from the two great English instances of federated university—the greatest the world has known—we obviously are seeking to profit by their example. And this extends to more than administration, more than the mere insistence on relatively small units joined in a federation. The peculiar richness of the life of the English universities is due to the intimate relation of teacher and taught in small groups; their mental atmosphere is not departmentalized, not put up in preserve jars to be opened in the classroom, but kept sealed at other times; it is expected to radiate from every subject attached, and to find answering gleams in every other phase of life; hence, it is not a thing primarily of credits and hours in class and strict attention to business so called; all that is but the buried substructure to be assumed and not exploited. America is gradually perceiving that Oxford does in a stately way, with immeasurable subtlety, the very thing that Garfield expressed in a homespun way in his famous remark about a student and Mark Hopkins sitting at the two ends of a log, on an afternoon, in the Williams woods. Education by rule is a poor substitute for education by human influence.

People who are not friendly to the Claremont plan lift their eyebrows and ask, Are you going to do the great thing merely by squeezing down student registration? Indeed, the controversial strategy of President Eliot is not yet an American axiom! Of course, the small college by itself cannot solve our university problem. Scripps College, located in its own village, unconnected with any other college, would be a false move in the attempt to solve the problem of this

day. Granted that it could have a unique faculty and a unique body of Freshmen, granted that it could maintain small classes—better yet, let us say small groups of companions, old and young, in the quest of the intellectual life—it would not, under present American conditions, meet two other challenges that are of first magnitude. It would not hold its unique Freshmen in a body until graduation; it would not, at graduation, have endowed them with a certain tone—a subtle, indefinable, but real and valuable possession—that is, the university tone. Americans sense the reality of the tone even when they misstate their notions of what it is. Its existence depends upon certain features in the institution that imparts it and upon the cultivation of a definite sort of reaction in the students who receive it. A definition of it may be shadowed by saying that it is an unconscious coloring of the young mind through contact with intellectual eminence, when that eminence has sufficient mass to permeate a considerable community, and when the community so permeated has sufficient prestige to brush aside the idea that its views of life are not to be taken as of first importance. A ponderous definition! But what it is clumsily driving at, most of us will accept. A youth who has behind him or her only an isolated college with a handful of scholars at its head, no matter how distinguished they may be, does not face the world with the same confidence in intellectual values, the same faith in the intellectual life, as does the youth who has lived for a while amidst a great commonwealth of scholars, who has seen a great number of students of his own age pursuing intellectual adventures with unfaltering belief in the worth-whileness of "the use of the mind by the mind itself"; who has heard the voice of his or her university "speak out, loud and bold," asking leave of no one, and establishing standards in the senate of the mind, with full confidence that in the long run the judgments of that senate are more certain of the world's acclaim than are those of any merely political or commercial senate—legislature, trade-union, mercantile association, trust, or what not—that ever existed.

THE federated university, and only the federated university, can combine these two essentials which are the prime factors of the Claremont scheme. What is seen at Claremont, as the substance of things hoped for, is a group of highly individualized colleges chiefly residential, all their life based on intimate contact of instructor and student. These colleges are to reinforce one another; each is to do things peculiar to itself and to open its doors to members of other colleges who take interest in those specialties. Certain activities they will share together. To promote these common enterprises is part of the function of a body that is described legally as the Board of Fellows of Claremont Colleges. This Board has a double function. Seen from one angle, it is a public-utilities corporation that aims to provide the apparatus which more than one college needs to use, but which if duplicated by the colleges would represent an unnecessary use of money. Laboratories,

research libraries, the Claremont infirmary, each is the sort of thing that is the peculiar care of the Board of Fellows in the public-utilities phase of its activities.

This is only one phase, the minor phase, of the Board's activity, however. It is also responsible for articulating the higher forms of the intellectual adventure at Claremont, and for sustaining the more advanced forms ordinarily described as "graduate" study and as research. A graduate faculty of Claremont Colleges includes all the full professors in the Colleges, certain other collegiate appointees, and a third group unattached to any college, but appointed by the Board of Fellows itself. It is this graduate faculty, so intimately related to the life of the Colleges, that constitutes the graduate school of what in fact, if not in name, is Claremont University.

Improvement in College Teaching at Columbia University

By JOHN J. COSS

Summary of the Report of the Columbia Committee on Graduate Training for Collegiate Teaching

THE proposition that the main business of a college is teaching, most people would accept without question. Fifty years ago one might have said that all would accept this dictum without question. Some of us, however, at the present moment realize that teaching in any limited sense is not the sole business of the college. There scarcely can be a good college in which there is poor teaching, and I should hesitate to call any college poor in which there is good teaching; yet, in spite of this, I should insist that the total impress made upon the student by four years spent in an institution varies in quality enormously, and I should insist that teaching is only one of the factors responsible for the impress.

Teaching in its strictest sense is, I suppose, the dealing with a subject-matter in a classroom or laboratory. President Eliot was apt to regard teaching in this sense. A great many institutions, faculties, and faculty members believe that any other way of considering teaching is under some soft or mollycoddling influence. On the other hand, some think of a college in which even good treatment of subject-matter in classroom and laboratory is present in a kind of atomic fashion, as one in which much is left to be desired in the forming through the faculty group of a co-operative body concerned with every phase of human life at the level of college age, participating in a variety of influences exerted by elders upon juniors, and assisting, though not controlling, the development by these same juniors of habits of consideration, responsibility, initiative, and fruitful recreation. Many of these activities one cannot list under the old idea of teaching, but they are part of the new conception. They condition the selection of teachers, the selection of students; they are affected by the clarity and adequacy of a collegiate plan; they are dependent upon educational leadership of administrative officers and upon financial support by trustees and ultimately by the community. They make of college a life enterprise for four years, and in this enterprise, while teaching is of the essence, there are many important accidents.

Having thus made clear that I should take fundamental exception to any narrow interpretation of the work

of a member of a college faculty, I should like to address myself to the consideration of certain distinctions within the field more narrowly considered to be teaching. It is my belief that this field cannot be thought of as a homogeneous unit. It contains a variety of groups each with specific differences. To me it seems that the field may be divided into at least three parts:

1. Teaching of skills or techniques in which the control of a subject-matter as a whole is not the end but rather the adequate use of certain elements within a subject-matter, not as ends but as means. I shall call this "tool teaching."
2. Teaching subject-matter in its first outlines with much attention to fact but a pervading and constant attention to meaning and interpretation. This I shall call "orientation teaching."
3. Teaching which is like the relationship existing between master craftsman and apprentice in which the master is endeavoring to give to the younger person insight into the problems of a particular craft with a view to making him an independent worker in it. This I shall call "research teaching."

I should say that every school in the United States at the present moment has within its faculty different individuals who are doing teaching of each of the three sorts. There are some few teachers who are almost equally competent in each of the three sorts. There are some teachers excellent for one and useless for the others. My point, however, is that in any talk about improving teaching in its narrower sense we should give attention to these three sorts of teaching and attack the improvement in specific rather than in general terms.

Two more points I should like to make before the particular activities of Columbia College are mentioned: First, in the consideration of the improvement of college teaching one must know quite definitely what aim or aims the college possesses. The utilization of the various types of teaching just characterized, the emphasis upon each, and the giving to each of its due proportion will depend upon the aims of the college; and many colleges, alas, have no aim whatever that is consciously appreciated and discriminatingly striven for. Many colleges provide for the perpetuation of traditions more genteel than relevant which, like the laws of nature, exist without reason and are discovered merely because they are there.

The second point is that one cannot consider the aim of a college or the character and preparation for teaching unless at the same time one is considering the quality, temper, and interests of students within the college. If a college be so fortunate as to be sought out by more students than it can accept, it finds itself at once in a promising and critical position. If it knows its aims and knows its resources and has wisdom enough to connect these with certain types of young men and young women and can devise means for selecting from its applicants young men and young women who possess these qualities, then the college may consider itself fortunate, for it will find that it possesses the proper kind of raw material to be shaped by its own facilities and in accordance with techniques which it has devised for particular ends.

SOME of the characteristics and conditions of tool teaching should be distinguished. I have no doubt that any subject may be regarded as a tool subject from certain angles and from certain interests. Philosophy may well be a tool subject for a writer, possibly for a historian, but most of us would understand by a tool subject the modern foreign languages, the writing of adequate and unequivocal English, the handling of figures in a fashion sufficiently statistical to be of service to the political scientist or the investigator in education. Each of these subjects naturally exists in its own right as an end of instruction, but I fancy that few would say that any save a small proportion of those who are required to study these subjects regard them as other than necessary aids or if required for all students as inadequately mastered, irritating, and largely useless compulsions in an unintelligently planned and rather tyrannical system of collegiate education.

I cannot say that Columbia College has done much in the improvement of teaching of tool subjects. It is more and more coming to realize, however, that it is necessary to think of certain subjects for certain students as tools and to study methods by which students may most effectively and quickly master the tools to be used. Opinion within Columbia College differs as to whether students should be required to take, either as end or as tools, mathematics and the modern-language group. This area of disagreement seems to me to be a particularly fruitful field of discussion, and I believe a much needed area of educational reform.

Columbia College has developed a number of orientation courses. There is a required five-hour freshman course in the social-science field, a required three-hour sophomore course in the social-science field, an elective course in geology, in fine arts, in the religions of the world, in zoölogy, in chemistry, and in physics. There is an extended three-year sequence in English which is a survey course of a more intensive character. Doubtless a dozen other courses could be mentioned which are pre-eminently survey or orientative in their character. Columbia College has endeavored to staff these courses with men particularly gifted in classroom presentation and discussion, and men, furthermore, who are interested in students as well as subject-matter. We have found that these courses are acceptable to students, stimulating and interesting in the various fields, and continually satisfactory to the instructors in proportion as they have been staffed by persons interested in arousing an informed and discriminating interest on the part of students. I once heard a man say that he taught only from his spinal column and wrote with his brain. Orientation teaching must be done with the brain.

Some of the orientation teaching is done in courses with as many as twenty sections of thirty students each. Some eighteen instructors may be involved in a single course, each teaching the same material. This group enterprise gives opportunity for training new men and the discussion of both general and particular problems, and, though much has been done by group conference and discussion, we

are perfectly aware that much remains to be accomplished and that we could serve each student greatly, and each instructor as well, if we took from the crowded academic days and weeks more hours for more thorough and more experimentally controlled investigations of what we do and why we do it and how well we accomplish the ends which we say we are seeking.

The aims of orientation teaching as I have already indicated are twofold —through reading, discussion, and lecture it must present large bodies of facts, partly in their own right, but chiefly because they are essential to understanding the significance of occurrences or theories in science, in social relationships, and in the humanities. The excellent teacher creates devices for encouraging the student to aid himself as much as possible in the accumulation of facts just as the tool teacher who is expert throws the major part of the burden of tool acquisition on the informed activity of his students. The orientation teacher then proceeds to develop comparisons, to point out meanings, and wherever possible to habituate students to a feeling of irritation unless they know or at least strive to know the why and whither of things.

The expert orientation teacher brings his students to the point where they are ready to begin digging to find answers to questions which perplex them. Research teaching must keep this curiosity alive and must show techniques of discovery. It requires close contact between students and teacher, adequate equipment of conference rooms, library facilities or laboratory equipment, and most of all it requires an uncrowded program for both students and teacher. We tend to teach too many hours, give too many courses, and require students to register for too many points until one cries out in despair, "Vanity of vanities, of the taking of courses there is no end!"

I am convinced that many students could spend the entire senior year on one conference course or seminar on just one subject and that the faculty member with at most twelve such students would have his hands completely full. My belief is that teaching of this sort should be confined to subjects of developed interest on the part of the instructors. Students should come in as assistants, and instructors should not split their time working on subjects interesting to the students but outside of the range of interest or growing competence so far as the instructor is concerned.

Columbia College in the field of research teaching is making some progress and is destined to make more speedily since it has laid out a program involving intensive study not only for Seniors but also for competent Juniors. The College is also giving serious consideration to the overweighting of courses so that students may be permitted to take a program involving few subjects.

I turn now from the consideration of types of teaching to a brief statement of some investigations which we have made at Columbia in the matter of training graduate students for more effective collegiate teaching. A committee including representatives from Teachers College and from Columbia College has considered the problems

of the training of graduates prior to undertaking college teaching and also of the duties of the college in initiating new teachers. The findings of this committee are sufficiently broad in their reference and important in their bearing to raise fundamental questions as to ways and means of improving college teaching. Under typical paragraph heads the report of the committee is now introduced.

REPORT OF THE COLUMBIA UNIVERSITY COMMITTEE ON GRADUATE TRAINING FOR COLLEGIATE TEACHING

General statement.—In this report the Committee considers not merely the question of such training as graduates should receive prior to undertaking collegiate teaching but also the duties of the college in initiating new teachers and to some extent the problem of improving college teaching generally.

1. *The urgency of the question.*—The Committee believes that there is much poor teaching in colleges and that this is due to inadequate training in subject-matter, narrowness of specialized training, lack of general knowledge of the world and of human problems, and lack of personality on the part of the teachers. For these weaknesses no knowledge of method can compensate. Back of these causes are doubtless the inadequate salaries paid in a great many colleges, and ignorance on the part of college authorities as to what they want to do and the type of person necessary to accomplish their aims.

Increased salaries, careful selection on the basis of personal qualities, and encouragement on the part of graduate faculties, and employing college authorities in the thoroughness of the mastery of subject-matter and breadth of training in related fields are remedies more important than any course in method. While this is true, it is the belief of the Committee that the consideration by graduate students of questions of college policy in general and the presentation to them of the problems of various subject matters in particular, would improve the quality of college teaching.

2. *The teaching experience and maturity of candidates for the Doctor's degree.*—Studies made of the recipients of the Doctor's degree in Columbia University in 1930 and of candidates for the M.A. and Ph.D. degrees in the University of Minnesota in 1927, indicate that practically without exception recipients of these degrees have had from three to seven years' teaching experience, but by no means all have had experience in teaching in colleges. The greater number of the candidates fall within the age groups of twenty-seven and forty-two. They are mature persons with teaching experience.

3. *Changes in graduate instruction.*—The Committee believes that changes in graduate instruction helpful in training for collegiate teaching may be brought about. It points out, however, that generalization regarding this matter is unwise since staffs of various departments take radically different positions regarding the attention of graduate students to anything save research in restricted fields, and because some departments can make use of graduate students as apprentices more easily and naturally than can others.

a. Use of assistants.—Where possible, graduate students may be used as assistants who work under the supervision of members of the department teaching in the undergraduate colleges. Such recommendation is made in the interests of graduate training and not for the convenience or the economy of the college. Such graduate students should have conferences with members of the department on the assistance which they are rendering.

b. Conferences in particular subjects.—Staff members, graduate or undergraduate, may meet with groups of interested students to discuss matters concerning the

curriculum and departmental plans in various subject-matters. Attendance upon such conferences should not be compulsory.

c. Observation of others teaching.—Opportunity for observation in undergraduate classes should be given to graduates wherever practicable provided that the graduate students are recommended by the executive officer of the department concerned. Conference should follow observations.

d. General lecture course.—For graduate students in all faculties an elective course of lectures on collegiate education in America, systematic and critical rather than historical, is approved by the Committee. Such a course should be planned with the co-operation of representatives of graduate instruction, undergraduate instruction, and the teachers' college.

Since 1923 courses in collegiate education, in which members of the graduate faculties and of Columbia College have participated on occasion, have been given in Teachers College to a total of approximately five hundred students. These courses have dealt primarily with the administrative and general instructional problems of higher education.

4. *Training while teaching.*—Persons on first appointment to college positions may be helped in their teaching by more careful attention to their needs on the part of department heads and of the dean or his representative.

a. Departmental junctions.—The chairman of the department or some other persons should see that new appointees meet all members of the department in as informal a fashion as possible and that the whole plan of departmental instruction be outlined and that the points in which departments have particular problems or projects or differences from the usual procedure be made clear. Policies of examinations and marking should be explained. Leaders in courses of many sections, if new appointees work under them, should acquaint the appointee with the syllabus and with all details of the course in question. Departmental heads may properly go over the detailed plan of courses given by new appointees as sole instructors.

b. Functions of the dean.—New instructors in a group should be met by the dean and told in detail the aims and principles of the college and be shown how specific routines serve these and how particular departments plan their own work and also cooperate with the plans of the college as a whole.

c. Observation of the teaching of others.—New appointees should be encouraged to visit the classes of experienced lecturers in the department. Conference after such observation is desirable.

5. *Experimental attitude of college and university.*—A college in a university is in a position important for experimentation, since it has a selected group of students, a selected group of instructors, and immediate contact with large groups of graduate students and with a school of education. So far as practicable the colleges within a university should cooperate with both graduate faculties and the school of education in the formulation of and carrying out of plans for the improvement of college teaching.

Faculty Quality

By M. E. HAGGERTY

A Crucial Element in the Improvement of College Instruction

A DECADE ago the charge was widely made that the colleges were not interested in teaching. It was even asserted that instructors were fretted by the presence of students, particularly of those of the poorer sort. They were said to be absorbed in research, in publication, in the trappings of scholarship, and indifferent to the need of adolescent youth for instruction. To faculties and to deans was attributed a paramount desire to eliminate the dullards and indolents, a desire that carried in its wake a large number of competent young men and women whose intellectual interests had not yet been aroused by college procedures. More than an implication was current that the colleges were derelict and insensible to the lofty obligation implicit in their status as institutions of higher education. The easy assertion that the poorest teaching to be found in any of our schools had its locus in the university found hospitality in the minds of many who were concerned about the welfare of individual students or about the proper function of the higher schools.

It is the writer's judgment that such assertions have usually been false in the generalized and extreme form they have been wont to assume, however much inherent support they may seem to derive from individual instances and occasional happenings. Prejudice, dullness, ignorance, shortsightedness, indifference, and snobbery are too copiously produced by the human race to be monopolized by the relatively small body of individuals composing the faculties of our colleges. If one wished to disregard the criteria of inductive logic and to indulge sweeping generalizations from individual cases, it would be easy to claim that in the colleges one would find the greatest solicitude for individuals, the most earnest effort to make instruction effective, the most stimulating personalities, and all educational procedures at their best. It is just possible that if our knowledge were wide enough and our collection of cases sufficiently comprehensive, the principles of scientific logic would validate just these conclusions. Who knows?

The charge of indifference is certainly belied by activities of the decade since the war. In literally hundreds of colleges throughout the land, individual teachers, whole faculties, and institutional administrators are alert to readjust their curriculums

to current needs, to improve instruction, to understand better the abilities and the needs of students, to improve the means of educational guidance. Numerous reviews and digests of these changing practices have appeared in print in recent years and obviate the necessity for detailed report here. Attention is called to the yearbooks of the National Society of College Teachers of Education, to the reports of summer institutes on college problems at Chicago and Minnesota, to the bulletins of national and regional associations, and to the multiplying papers in journals of higher education. One is made vividly aware of this prevailing interest in instructional improvement by running in review current phrases, some new, others newly emphasized, the connotations of which are readily recognized: preceptorial system, honors courses, independent study plan, new-type examinations, tutorial instruction, comprehensive examinations, freshman year, personnel records, college-aptitude tests, educational guidance, improvement of marking systems, faculty study groups, supervision of instruction, collegiate educational research, courses in higher education, mental-hygiene service, experimental teaching, student counselor, faculty ratings.

It is, of course, easily possible to be misled about the novelty and the effectiveness of all such means as these phrases denote. In our own institution we have lately been concerned about improving the means of student guidance. The problems of counseling have been widely discussed throughout the institution, and in several of the colleges and departments instructors have adjusted their teaching schedules in order to give more time to student advising. After writing a paragraph descriptive of these changes, the writer recently picked up a volume of educational essays by President Gilman. In one of these is an account of the introduction of a system of student "advisers" in the early days of Johns Hopkins University. On the one hand, Dr. Gilman relates the Hopkins scheme to the earlier tutorial methods of the English colleges and their American progeny, and, on the other, he claims for it the parenthood of the Princeton preceptorial plan inaugurated under Woodrow Wilson, an elder son of Hopkins University. The lineal, or at least collateral, descent of many of our present schemes of student adjustment is thus easily apparent. They are but reflections of an age-long eagerness of teachers to guide and instruct youth, an eagerness far more significant than any of the schemes of action which it invents, and, when virile, it is fairly independent of administrative systems and of the superficial techniques of counseling.

SOMEWHAT kindred reflections would seem appropriate concerning the current furor over examinations. In spite of the extensive exploitation of new-type techniques and comprehensive examinations, committee researches, association surveys, and dazzling sums of money, nothing in recent discussion cuts deeper into our appreciation of the importance of examinations than a paragraph spoken by Charles William Eliot on the day

of his inauguration as president of Harvard College more than sixty years ago, and most of the youthful knights of the objective method have been startled to discover how really modern was Horace Mann as long ago as 1845.

Such comment does not imply that examination procedures have not been improved in recent years. Statistical techniques have certainly increased the accuracy and the objectivity with which we speak of educational results, and this seems a distinct gain. But educational-measurement techniques do not yet enable us to speak with confidence concerning the usefulness of more than a superficial modicum of our educational procedures. The futile results of most of the so-called experiments as to the influence of particular modes of college instruction still leave most of such issues in the realm of debate, and all too often we have fallen back upon the ready inference that none of them make any particular difference, that all is a matter of congenital ability and inheritance. Unable to arrive at sufficiently refined measurement to validate the lecture method or the laboratory method, we have taken flight from the real problems of individual learning to expansive and spectacular programs of group examinations. It is not denied that in the past some gains have accrued from test surveys, but there has been a gradual abandonment of such procedures in the elementary field where they had their beginning, and it may be hoped that we shall not need to relearn at the college level the simple lessons of our earlier experience. What the colleges now need is not exploitation with inferior examinations, but greatly improved testing measures that may be utilized in experimental investigations, less propaganda and more science, less travel and more research.

It does not seem desirable to overemphasize the matter of instructional methods and examination procedures by dwelling too long upon them. They are probably much less important for the improvement of college education than the readjustment of the college curriculum, certainly much less significant than an improved quality in college faculties, and because of the manner in which the chairman of this conference has phrased my particular topic, I claim indulgence for rambling on to other matters.

SEVERAL years ago Floyd W. Reeves made a critical examination of the standards used by the North Central Association of Colleges and Secondary Schools for accrediting colleges. Among these standards there is one relating to the faculty and reading as follows:

> The minimum scholastic requirement of all teachers shall be graduation from a college belonging to this Association, or the equivalent. The training of the members of the faculty of professorial rank shall include at least two years of study in their respective fields of teaching in a recognized graduate school, presumably including the Master's degree. For heads of departments, training should be equivalent to that required for the Ph.D. degree or should represent corresponding professional or technological training. The teacher's success is to be determined by the efficiency of his teaching as well as his research work.

> The college should be judged in large part by the ratio which the number of persons of professorial rank with sound training, scholarly achievement and successful experience as teachers, bears to the total number of the teaching staff.[1]

Mr. Reeves did not find that meeting this standard insured any high standing in other measures of institutional competence. All his coefficients of correlation were relatively low when faculty training was one of the variable factors. Some persons have leaped to the inference from these findings that faculty qualifications have little significance and should be ignored in college accrediting, although I do not understand that Mr. Reeves accepted such conclusion.

It is doubtless a more defensible inference from such studies to note that years of training and the possession of advanced degrees are inadequate criteria of faculty qualification; it is still consistent with all known facts to believe that an adequate criterion of faculty competence would be the most significant measure of the worth-whileness of a college. If one permits his thinking to run in this channel, however, he is at once faced with the need for a more penetrating and comprehensive description of what renders a faculty competent and effective. I can proffer no satisfactory response to this problem, but if I may be permitted an expression of faith, it would be that here lies our central problem in the improvement of higher education. When one dips into the history of the American college at the points of great vitality and illumination, he is instantly aware of the superior quality of the men who created the intellectual atmosphere of the place, attracted students, and set them about matters of great moment. Harvard University in the latter half of the nineteenth century, Brown University under Wayland, Williams with Mark Hopkins, Chicago in the nineties, Stanford in its first twenty years, Virginia reflecting in its staff, its curriculum, and its very architecture the spirit of its founder are but illustrations. It was no small element in the administrative genius of men like Eliot, and Gilman, and White, and Angell, and Harper, and Jordan that, as if by intuition, they could discern the promise of young teachers. About such leaders, young men, tutors and students, tended to cluster like grapes to a strong stem, and if at the head of every college there should be a man with the spiritual authority of any one of these, we might dispense with all baser means of faculty evaluation. Such we know is not the case, and administrators with narrower gifts stand in need of some support of their individual judgment in the selection and cultivation of college teachers. Through what means to provide this needed supplement to administrative acumen we are still at a great loss to discover, but in no aspect of higher education would a significant contribution have more far-reaching value.

The problem is probably not hopeless, at least, of a partial solution. It will be some gain if we can

[1] Reeves, Floyd W., and Russell, John Dale. *The Measurement of College Excellence.* Lexington, Kentucky: University of Kentucky, 1929. p. 15. (Bulletin of The Bureau of School Service, Vol. I, No. 4) Quoted by Mr. Reeves from *Proceedings of the Twenty-Eighth Annual Meeting of the North Central Association of Colleges and Secondary Schools.* 1923. pp. 10–11.

throw this matter to the very front of our thinking and keep it there amid all our anxieties about techniques and methods; if we can but purge our minds of some of the illusory fixations which beset us, we may in time make definite some of the essential qualities of great teachers. Some of these qualities we certainly can name—scholarship, human sympathy, continuing intellectual alertness, range of interests, creative activity, physical vitality, poise and restraint, aptness in teaching —to use terms haloed with intangible aura. Difficulties protrude and jab at us when we seek definition in measurable units such as years of training, courses studied, years of experience, scholarly production, teaching achievement. Some vital component of scholarship appears to escape when we attempt to tag it with specification; some element of stimulating instruction eludes us when we would earmark it for all to see.

Yet the weighty consequences of faculty competence forbid us to surrender our efforts to clarify our minds about the qualifications of a college instructor. When it is said that American schools need forty thousand teachers of mathematics, it is not enough to offer forty thousand impoverished, narrow-visioned, college-degreed bipeds. The requirements imply informed, intellectually stimulating, cultivated, aspiring men and women devoted to the care and culture of youth. While the supply of such persons remains, as it is, far below the severe demand, that college will be superior which is most successful in the selection and retention of the most competent instructors. We can adhere to this declaration without the usual weasel-worded qualification, "other things being equal." This damning phrase we need not employ in this case for, however unequal other things may be, there is no condition that will greatly negate the fruitful issue of a competent, hopeful, and well-administered faculty, and there are no material conditions that will create a good college about a trivially minded, unillumined group of pretending teachers. This, may I repeat, is my deepest faith about the panoply of higher education, and the most far-reaching contribution which research may add to our procedures is enlightenment as to better means for the discovery, education, and continuing culture of college instructors.

MAY I here within the fold of our own craft express a conviction born of experience in examining the credentials of prospective college teachers and in interviewing several hundred applicants for positions in my own institution. The conviction is that we have yet to develop the adequate program for the education of teachers of education. We have enjoyed an encouraging advance in the technical equipment of our more recently trained men. It is easy to locate individuals who can discourse with a show of learning upon the standard deviation, cost accounting, the project method, or the G factor. Far less frequently does one find the young man, the product of recent study, to whom such techniques appear as they should, the useful tools of erudition and of a broadly cultivated mind. It is relatively easier to find one who can traverse smartly the

symbolic language of statistical procedures than it is to discover one who is at home in the rich flexible language of our varied English literature. Some who thrill with the appellation of doctor reveal painful evidence of poverty in the realm of ideas outside the border of a narrow educational specialty. Such individuals do little credit to the profession of education; they can carry little weight with the leaders of academic faculties; the solution of basic educational problems lies beyond their power. In a university faculty such men are out of place.

The conditions which these statements decry can be but temporary, and we must strive for a richer and broader education for our leadership. Human lore is too vast and varied to be controlled from the margin. Men who play merely upon the fringe of learning cannot make the curriculum of the college or of the public school. Somewhere in the wide stream of human knowledge they must wade deep enough to perceive its central meaning. In biology, in mathematics, in literature, in art, in the realm of historical study they must plunge far enough to sense what culture is and to feel something of the meaning of civilization. To men of this baptism the skills we offer in courses to which we arrogate the word professional will be the instruments of large service. They will be but the trappings of pedantry to any others.

Students: Admission and Fees

By M. M. CHAMBERS

Judicial Decisions Defining the Right to Attend State Universities and Colleges

THE regulation of the relations between state institutions of higher education and their students, on a basis of justice to the individual consonant with sound public policy, is a matter worthy of the attention of all who study and practice the profession of education. The reports of the Federal courts and of the courts of last resort in the various states furnish a number of decisions in which the several subdivisions of this subject have been touched upon. This paper is a review of the salient points of some of those cases, concerning the closely interrelated topics of admission and fees.

One of the earliest cases arose in Indiana, involving the right of admission to Purdue University. The board of trustees of this institution, without statutory authority, had made membership in a Greek-letter fraternity a positive disqualification for admission. The relator in this case had been refused admission because he declined to sign a statement ending: "I do solemnly promise that I will disconnect myself as an active member of the Sigma Chi fraternity during my connection with Purdue University." He applied to the general trial court for a writ of mandamus to compel his admission, which was denied. He appealed to the supreme court, where the judgment of the lower court was reversed, and the writ granted. The following excerpts are from the opinion:

> The admission of students in a public educational institution is one thing, and the government and control of students after they are admitted, and have become subject to the jurisdiction of the institution, is quite another thing.
>
> It is clearly within the power of the trustees . . . to absolutely prohibit any connection between the Greek fraternities and the university.
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> But the possession of this great power over a student after he has entered the university does not justify the imposition of either degrading or extraordinary terms and conditions of admission into it. . . . Every student, upon his admission into an institution of learning, impliedly promises to submit to, and be governed by, all the necessary and proper rules and regulations which have been, or may thereafter be, adopted for the government of the institution, and the exaction of any pledge or condition which requires him to promise more than that operates as a practical abridgment of his right of admission, and involves the exercise of a power greater than has been conferred upon either the trustees or the faculty of Purdue University.

> If mere membership in any of the so-called Greek fraternities may be treated as a disqualification for admission as a student in a public school, then membership in any other secret or similar society may be converted into a like disqualification, and in this way discriminations might be made against large classes of the inhabitants of the state, in utter disregard of the fundamental ideas upon which our entire educational system is based.[1]

A LATER case arising in Mississippi reaches a different conclusion from the foregoing, where, however, the state legislature had passed an act abolishing and prohibiting secret societies at all colleges and universities supported by the state. In this case, it was held that the anti-fraternity statute justified the board of trustees of the state university in refusing admission to a prospective student who refused to sign a pledge to the effect that he was not then pledged to become a member of any Greek-letter fraternity, had not become a member of any such fraternity within the sixty days preceding the opening of the school session, and would not join any such organization while a student in the university, and would "so act that no word or deed . . . could be even remotely construed as being violative to the letter and the spirit of what is known as the 'Anti-Fraternity Bill.'" The relator secured an injunction against the enforcement of the trustees' order requiring the signing of this pledge by all matriculants at the university. The trustees carried the case to the supreme court of Mississippi, which reversed the lower court, sustaining the trustees' demurrer to the relator's cause of action, and dismissing the case.

The supreme court declared that the pledge which matriculants were required to sign was nothing more than a promise to comply with the law of the state while in the institution; that the trustees' order was the only practicable means of enforcing the act of the legislature; and that the act itself was a mere disciplinary regulation, clearly within the power of the legislature to enact and apply to the educational institutions under its control. The court reasoned that the legislature having power to create and abolish these institutions, it necessarily could regulate them; and, having passed a law to control and regulate any subject which it considered to be inimical to the welfare of the institution, its wisdom in such matters is not to be reviewed nor its acts invalidated by the court, merely because the court might think the act in question was unwise or unnecessary. All acts of a state legislature are valid unless they conflict with the constitution of the state or that of the United States.

The court disposed of the complainant's contention that he was being denied a right guaranteed to him by the fourteenth amendment to the Constitution of the United States, as follows:

> The fourteenth amendment to the Constitution of the United States was never intended to act as an accomplice to any young man who wanted to take advantage of the gratuitous advantages offered the youths to obtain an education, and yet refuse to obey and submit to the disciplinary

[1] *State* v. *White*, 82 Ind. 278, 42 Am.Rep. 496 (1882).

regulations enacted by the Legislature for the welfare of the institutions of learning. The right to attend the educational institutions of the state is not a natural right; it is a gift of civilization, a benefaction of the law. If a person seeks to become a beneficiary of this gift, he must submit to such conditions as the law imposes as a condition precedent to this right.[2]

The case was appealed to the Supreme Court of the United States, where the judgment of the Supreme Court of Mississippi was affirmed, the opinion being written by Mr. Justice McKenna, who concluded with the following words:

> It is very trite to say that the right to pursue happiness and exercise rights and liberty are subject in some degree to the limitations of the law, and the condition upon which the state of Mississippi offers the complainant free instruction in its University, that while a student there he renounce affiliation with a society which the state considers inimical to discipline, finds no prohibition in the 14th Amendment.[3]

Although there can be no quarrel with the soundness and lucidity of the judicial opinions here quoted, it should be remembered that anti-fraternity legislation similar to the Mississippi act is exceptional rather than general. The Mississippi act was repealed in 1926. Similar acts in Arkansas and South Carolina have also been repealed. It may be said with safety that in view of recent and current developments in the theory and practice of higher educational administration, anti-fraternity legislation is of increasingly doubtful wisdom, and the policy of repression of such societies among college students is well on the wane.[4]

Another class of cases, that involving a state university's right to require vaccination against an infectious and contagious disease as a condition of admission, is of interest. Two California cases have confirmed the possession of this right by the university, under the constitution and statutes of that state. In each of these cases the petitioner had applied to be entered in the University of California as a student, and had complied with all the requirements prescribed, except that he refused to submit to vaccination against smallpox, or offer proof of previous vaccination, for which reason his application had been denied. He sought to deny the authority of the regents to exact such a requirement, and applied to the courts for a peremptory writ of mandate to compel his admission. In each case the Court of Appeals denied the writ, finding the law of California to be such that the regents of the university were within their rights in requiring vaccination as a condition of admission.[5]

TURNING next to the exaction of fees as a condition precedent to admission to state institutions of higher education, we find several interesting cases. One of the earliest of these was in Wisconsin. Here a

[2] *Board of Trustees of University of Mississippi* v. *Waugh*, 105 Miss. 623, 62 So. 827, L.R.A. 1915D 588 (1913).

[3] *Waugh* v. *Board of Trustees of the University of Mississippi et al.*, 237 U.S. 589, 35 S.Ct. 720 (1915).

[4] *State* v. *White*, the Waugh case, and other related cases are discussed and compared by H. L. Church in his article, "College Fraternities and the Law," in 19 *Law Notes* 166 (1915) (Northport, N. Y.).

[5] *Wallace* v. *Regents of University of California et al.* (Cal.App.) 242 P. 892 (1925); *Williams* v. *Wheeler*, 23 Cal.App. 619, 138 P. 937 (1913).

member of the senior class in the state university was refused admission at the beginning of the fourth academic year of his residence, solely because he refused to pay a fee of $4.00, which the board of regents required of all students except members of the law class, to cover incidental expenses, such expenses being the cost of fuel, lighting, and janitorial service for certain public rooms at the university, including the gymnasium and the quarters for the literary societies, there being no statutory authority for the provision of these things at the expense of the state. The aggrieved student secured an alternative writ of mandamus directed against the board of regents, to which they made a return alleging their power to exact such a fee.[6]

To this return the relator demurred, and the supreme court, overruling the demurrer and upholding the position of the regents, reasoned as follows from the law and the facts: First, the constitution of the state left the legislature free to regulate the matter of fees at the university.[7] Second, the board of regents, as a corporate body, had no powers except such as had been conferred upon it by statute, either by express language or by fair implication. Third, all the acts of the legislature relating to the university, construed together, conclusively established the power of the board to exact fees from students for admission, instruction, and the incidental expenses of the university, except as such power was, from time to time, expressly limited. Fourth, a statute in effect provided that no student who had been for one year or more a resident of the state should be required to pay any fee for tuition in the university,[8] students in certain departments of the university being excepted from the application of this statute; but the word "tuition" was construed to mean "instruction" or "teaching" and not to have any reference to incidental expenses of a different character, such as those for which the fee in question was charged. In short, the heating and lighting of the gymnasium and public auditoriums were necessary and convenient for the accomplishment of the objects of the university, and the exaction from each student of a small fee to cover a fractional share of such heating and lighting as a part of the incidental expenses of the university was clearly within the general grants of power given by the legislature to the board of regents, and its exercise had never been expressly or impliedly forbidden by the legislature.

IN A later and somewhat analogous Kansas case, the supreme court of the state ousted the regents of the state university from their assumed power to charge each student a fee of $5.00 for the use of the library,

[6] *State ex rel. Priest* v. *Regents of the University of Wisconsin*, 54 Wis. 159 (1882).

[7] Article 10 of the state constitution provided that the educational system of the state should consist of common or district schools, academies and normal schools, and a state university, with such colleges to be connected therewith as from time to time the interests of education might require. Section 3 of this article required that the district schools should be free and without charge for tuition to all children between the ages of four and twenty years, but the constitution was silent on the subject of fees or charges to be paid by students in academies, normal schools, and the university.

[8] Sec. 5, Chap. 117, *Laws of Wisconsin*, 1876, subsequently re-enacted as Sec. 388, *Revised Statutes of Wisconsin*.

and to exclude such students as refused to pay the fee from the use of the books.[9] At the time this case was adjudicated a statute was in effect which provided that admission to the university should be free to all inhabitants of the state.[10] The regents claimed that the word "free" must be taken with qualifications; that the imposed fee was no more than was reasonable to preserve and protect the library; and that this fee was essentially of the same nature as laboratory breakage fees, the necessity and reasonableness of which were unquestioned. The court found that the legislature had made special provision for the charging of laboratory fees and deposits,[11] but had given no such permission to charge library fees; and, classifying the library with the buildings, furniture, and other property of the university designed for permanent use, as distinguished from laboratory supplies which are necessarily expendable, held that the regents were without power to charge the library fee as a condition precedent to the use of the books which were state property.

A CASE in which the power of the board of regents of the Oklahoma Agricultural and Mechanical College to exact fees from students was defined drew from the supreme court of the state the following conclusions: First, in view of the fact that all properly qualified citizens of the state between the ages of twelve and thirty were entitled to admission and instruction, no fee for incidental expenses might be charged and collected as a condition precedent to entrance. Second, a reasonable sum might be required to be deposited by each student, as a condition precedent to entrance, to cover negligent breakage or damage to the property of the institution, and to be refunded at the end of the term unless thus consumed. Third, the board might prescribe a uniform, and require it to be worn by the students,[12] and require that each student be provided with such uniform prior to entrance, or that a reasonable deposit be made to secure it.

The court declared that it was not reasonably within the implied powers of the board to charge a fee or require a deposit to be made by all students for the maintenance of the Y.M.C.A., Y.W.C.A., athletic associations, or the college news publication, nor to make it compulsory upon any student to contribute to the maintenance of these activities, unless he chose to participate in them voluntarily. As to the Christian associations, the decision was based on a clause of the state constitution[13] prohibiting the expenditure of public money for religious purposes, and upon the broad principle of the separation of church and state. As to the other activities, it rested upon reasoning manifestly in conformity with the dictates of common sense and of justice, in spite of the fact that incidental fees to be applied to the support of athletic associations are exacted in some other states. This

[9] *State ex rel. Little* v. *Regents of University et al.*, 55 Kan. 389, 40 Pac. 656, 29 L.R.A. 378 (1895).

[10] Sec. 11, Chap. 258, *Laws of Kansas*, 1889.

[11] Chap. 226, *Laws of Kansas*, 1895.

[12] This power, implied from a general legislative grant to the board, has been elsewhere upheld. *Cf. Davison-Nicholson Co.* v. *Pound*, 147 Ga. 447, 94 S.E. 560 (1917).

[13] Sec. 5, Art. 2, Constitution of Oklahoma.

precise matter appears not to have been adjudicated in the court of last resort of any other state.[14]

THE supreme court of the state of Washington has upheld the constitutionality of an act of the state legislature directing the state university to collect certain fees from all students,[15] including both a matriculation fee and a fee for tuition, the proceeds to go into a fund for the creation and equipment of two buildings on the campus.[16] Such a legislative act would undoubtedly be upheld in any state, in the absence of an express provision of the state constitution to the contrary.

The right of the legislature to discriminate in favor of bona fide residents of the state by exacting higher admission and tuition fees from non-residents who become students in the higher educational institutions under its control has seldom been questioned.[17] The classic case is from California. Here the statute defining the term "non-resident" as one who had not been a bona fide resident of the state for one year prior to his entrance to the university, and the ordinance of the board of regents prescribing a $75 admission fee for non-residents, were judicially declared to be neither unconstitutional nor unreasonable.[18]

Fees of a similar nature are exacted in practically all the states, and the legality of the practice is now beyond doubt, though its soundness as a matter of social policy is open to question. The unrestricted interchange between states of the high type of young persons who are attracted by educational opportunities may be of greater ultimate value than the paltry sums which are imposed as hardships upon the capable and ambitious non-resident student in pursuance of the shortsighted policy of mutual exclusiveness. Statistics of the migration of students generally indicate that the interchange of students is so nearly equal that no state is a heavy gainer from its policy of discrimination; and almost any registrar of a state institution will readily attest that the administration of the requirement of non-resident fees is fraught with endless annoyance and no little injustice. A nation-wide study of the facts and the theory of these fees would be most opportune.

[14] *Connell* v. *Gray*, 33 Okla. 591, 127 Pac. 417, Ann.Cas. 1914B 399, 42 L.R.A. (N.S.) 336 (1912).

[15] *Laws of Washington*, 1915, p. 239.

[16] *Litchman* v. *Shannon*, 90 Wash. 186, 155 Pac. 783 (1916).

[17] *See* Spencer, Carlton E. "The Legal Aspects of the Non-Resident Tuition Fee." 6 *Oregon Law Review* 332 (June, 1927); also published concurrently in 33 *West Virginia Law Quarterly*, 350.

[18] *Bryan* v. *Regents of University of California*, 188 Cal. 559, 205 Pac. 1071 (1922).

The Doctor's Dissertation

By G. T. BUSWELL

What Shall Be the Criteria for the Doctor's Dissertation in Education?

PRACTICES and policies affecting the Doctor's dissertation have recently undergone rather radical modification in several schools of education. The question at issue is, What sort of research constitutes the dissertation? In some institutions, the different requirements for the dissertation have been paralleled by two degrees, the Ph.D. which is based on a research dissertation and the Ed.D. which is granted to students who substitute some practical exercise for research. The writer has no desire to suggest a definition of research which is too narrow. If, however, institutions radically differ as to what they consider the essential characteristics of research, the standards for dissertations will show great variation although the terminology used to describe them may be the same. Furthermore, if the standards of research for the Doctor's degree in education differ greatly from those in other departments, difficulties may arise in maintaining the confidence of the members of the graduate faculty who have to pass upon the departmental standards for dissertations.

To secure some information regarding the practices and policies of different departments a letter was sent to the deans of the graduate schools and the heads of the departments of mathematics, chemistry, physics, history, economics, sociology, psychology, and English in Harvard, Yale, Columbia, Johns Hopkins, Wisconsin, Stanford, and Southern California. A similar letter was sent also to the heads of the departments of education in these and thirteen other universities. Replies were received from 47 university officers outside the department of education and from 18 heads of departments of education.

A portion of the letter follows:

> I shall appreciate it very much if you will be good enough to reply to the following questions:
>
> *a*) Is it your policy to require for a thesis a dissertation consisting of research which results in some new scientific generalization,
>
> *b*) a dissertation which consists in the application of existing scientific knowledge to some practical problem, or
>
> *c*) one which results chiefly in a new body of facts?
>
> Also, I should be much interested in your critical comments on the general character of the Doctor's dissertations submitted by students in your institution.

In the letter to the heads of the

departments of education the following paragraph was added:

Would you consider it desirable to offer two types of Doctor's degrees, in one case requiring a dissertation based on pure research, and in the other case a dissertation based upon some practical application or other suitable form of exercise which could not be classified as research?

The three descriptions of dissertations suggested in the letter may not characterize well the various types of research, but at least they served to produce interesting replies. Description *a* covers a dissertation which results in some new scientific generalization. Obviously, this generalization need not be of great magnitude, but it must go beyond the mere presentation of a body of facts. Description *b* covers dissertations which make application of scientific knowledge to some practical problem, while description *c* covers dissertations which are characterized by the discovery of new bodies of facts.

QUOTATIONS will be given from many letters to indicate first, the various conceptions of research which exist, and second, the general lack of agreement regarding standards of research. The departments other than education will be considered first, and the names of the departments or schools within the universities are indicated.

DEPARTMENTS OF MATHEMATICS—

"We require for the thesis primarily research which results in some new scientific generalization, but we might at times accept one which results chiefly in a new body of facts."

"In the department of mathematics here the dissertation might fall in any of the classes, *a*, *b*, or *c*."

DEPARTMENTS OF CHEMISTRY—

"In the department of chemistry the practice of securing scientific information for practical purposes is never followed, though of course results at times may have ultimate practical significance. As far as possible we prefer to have the dissertation such as you describe under *a*. Frequently, however, a dissertation is of the nature described under *c*, and this is particularly true where the work of the student is supposed to furnish data bearing on a broad generalization."

"The important thing is the intelligence with which the problem is handled. . . . The acquisition of accurate data by improved methods is in itself very important. The correct interpretation of these data is still more important. For the best interests it would be very unfortunate if any department adopted exclusively any one of the policies you have listed in your letter. After all, the question to be determined when a thesis is handed in for examination is this: 'Is the thesis an important contribution to the advancement of science?' "

"The policy of this department is to require for the Ph.D. dissertation results of experimental research which constitute a substantial addition to knowledge new to science and of theoretical, as distinguished from merely practical or descriptive, interest. In other words, we require a contribution of the sort described in your *a*, and do not accept dissertations of the type of your *b* or *c*."

DEPARTMENTS OF PHYSICS—

"It is our policy to require for a thesis a dissertation consisting of research which results in some new scientific generalization."

"We do not consider dissertations consisting in the application of existing scientific

knowledge to some practical problem. Our dissertations then fall under your classes *a* and *c*. As a rule all experimental researches involve *c*, and then an application of the new results is used to support old or new scientific generalizations."

"Our aim is to secure in each case a definite contribution to knowledge without any desire to have it directly applicable in practice, though at the same time we have no objection if it should prove to be so."

DEPARTMENTS OF ENGLISH—

"I find it quite impossible to analyze our dissertations according to the three topics which you mention. My experience has been that there are as many types as there are students and problems and that we have not yet exhausted the types or problems."

"In general the value of the thesis consists in most cases in the presentation of the new body of facts, or in the interpretation of an old body of facts under a new light. Our investigations in the field of language are in the main of hitherto unobserved facts, and it is only in the psychology and physiology of speech that we are likely to have any theses resulting in scientific generalizations."

DEPARTMENTS OF HISTORY AND ECONOMICS—

"In our department of economics dissertations are accepted which comply with any one of the three standards that you mention."

"It is our uniform rule to insist upon some substantial addition to present knowledge, but it is immaterial to us whether that addition consists in historical facts, in practical application, or in economic theory. We have had all three kinds."

"A thesis which results in some new scientific generalization would certainly be accepted. If it were a new application of existing scientific knowledge to some practical problem, it would also be accepted. One which results chiefly in a new body of facts would have to be a very exceptional piece of work and involve more than the mere digging out and nosing together of a body of facts. The writer would have to show enough intellectual power to classify and organize his facts in some manner which would make them useful or throw new light on some important theory or problem."

"I think that no doctoral thesis should be accepted unless some new scientific conclusion is reached after the examination of preliminary sources of information. So far as history is concerned, it would not be enough to apply existing knowledge to the solution of a practical problem. The doctoral thesis must include new facts, but it is quite possible to produce a thesis in which many of the facts are old but are arranged so as to support a new conclusion."

DEPARTMENTS OF PSYCHOLOGY—

"An acceptable dissertation must make a definite contribution to science. A mere presentation of data without theoretical significance or interpretation will not be acceptable."

"Discussing the acceptability of finished dissertations, we have always made use of the phrase 'a contribution to knowledge.' Thus we have insisted that the result be new and that it be a positive contribution in the opinion of the committee of three who read the dissertation. Our practice has been to consider the contribution positive when it yields a new generalization; when it gives a new body of fact, sufficiently integrated to be in itself a limited generalization and to carry scientific implications that extend beyond itself; and when it criticizes negatively and effectively some generally accepted law or body of fact or opinion."

"Most of our dissertations would fall under your classification *c*. We tell the

students that the main difference between our Master's thesis which we require, since the M.A. is usually given only after two years of work, and the Doctor's thesis is that the latter is supposed to extend the boundaries of knowledge in some specific direction. If generalizations are possible, we also work them in, although cautiously. Quite as important as this emphasis on new facts is, however, our emphasis on improvement in technique and procedure. Very frequently this is the main contribution of the candidate and I miss this rubric in your classification. In psychology all of our dissertations have been based on experimental investigation, mainly of the laboratory type."

DEANS OF GRADUATE SCHOOLS—

"In my opinion it is not possible to make hard and fast classification on the above lines. Moreover, the criteria will vary often with the department. . . . I think I detect a tendency toward overstandardization, especially in 'education.'"

"It is not our policy to require for a thesis a dissertation consisting of research which results in some new scientific generalization. Scientific generalizations are so rarely made by investigators generally that we feel that to make this a requirement for a Ph.D. thesis would put the degree beyond the reach of all but a lucky few. Under some circumstances, we do accept dissertations which consist in the application of existing scientific knowledge to some practical problem. Such theses are most frequently submitted by candidates, whose major subject is engineering, chemistry, geology, or education. In other words, those fields in which there is much application of science to the problems of everyday life. We do accept dissertations which embody chiefly new facts. Indeed, the great majority of the dissertations we accept fall in this class."

"I should say that all three of the types of thesis which you note in your letter are acceptable to examining committees here. The main point with us is always whether the thesis shows originality either in the discovery of new knowledge or in relating old knowledge in new and interesting ways."

"This is interpreted to mean that the investigation should result in 'some new scientific generalization.' A dissertation of the character described under *b* or *c*[1] . . . would be rejected even for a Master's degree."

DEANS OF SCHOOLS OF EDUCATION[2]—

"If I may speak quite frankly in answer to your letter of January 22, I should like to say that fine distinctions as to the kind of productive work that is done by candidates for the doctorate degree seem to me to be quite useless. In this school, we do not care what kind of research a doctorate student does, or whether he does research in any exact sense of the term at all. We do want every doctorate candidate to select a problem that is real and of genuine importance. We want him to deal with it comprehensively and constructively. It may be big or little; scientific, historical, philosophical, sociological, methodological, administrative; or of any other type or kind whatever. The techniques used may be statistical, experimental, historical, or what not. Questionnaires may be used, documentary material collected, or pure speculation resorted to. All we ask is that the result shall amount to something. The student takes the risk of doing the thing by the right method under the circumstances. If he cannot get an answer to the question or questions to which he is addressing himself without learning Russian,

[1] It is interesting to note that one of the department heads in the institution from which this statement was received reported that most of their Doctors' dissertations would be classified under (*c*). Obviously, the dean is not familiar with the practices in all of his departments.

[2] The first two quotations were taken from letters received from the deans of colleges of education in eastern universities, the rest were from deans in state universities.

conducting a series of experiments with Russian-speaking children, and applying rigid statistical analysis to his data, then these are the things that he must do. If he can really produce something worth reading by a process of straight argument without any experiments, without a single statistical table, and in complete innocence of treatises on the same subject in any language except English, we might perfectly well give him the degree on the thesis so proposed."

"The tendency of our dissertations falls mainly under the first of the three classes you mentioned. Dissertations under the second classification are acceptable if the manner of application requires creative ability on the part of the student. In other words, if the application of known techniques to a new situation promises to require sufficient pioneering to be a test of ability to do research, it is acceptable. The tendency here, I believe, is very definitely against the acceptance of a dissertation which is a mere compilation of a body of facts. Where the compilation . . . serves as pioneering in a new field and acts as a test of ability to do research, and at the same time takes a step towards the clarification of the problems in the field, it is acceptable as a dissertation."

"Theoretically we desire that each Doctor's dissertation will represent a contribution to the field in which it is written. A review of the dissertations which have been accepted for the degree would, I think, reveal the three kinds, *a*, *b*, and *c*, of which you make mention in your communication. While group *a* would be the most desirable, I think the bulk of our dissertations would fall under *c*. Very few dissertations are of such a high degree of merit as to admit of scientific generalization. I doubt whether the Doctor's degree should ever be given for some 'suitable form of exercise which could not be classified as research.' "

"Our present requirements for the Doctor's degree include a thesis which results in some scientific generalization unless the thesis happens to be an historical topic in which the discovery or recovery of new information could constitute the basis for the dissertation. That would follow under your heading *c*. At any rate, this material would at least be a scholarly reorganization of a body of facts even though the body of facts were not new. In the case of your point *b* we have attempted to adhere to the principle that any application of existing scientific knowledge to a practical problem would have to be accompanied by a measurement of the success of such an application."

"There is little sentiment among our staff for the granting of two degrees. It is our judgment that such leeway as may be necessary to meet the needs of individual students may properly be secured under the single degree of Doctor of Philosophy. This judgment would, I think, be modified should the requirements for a Doctor's thesis be defined within too narrow limits. Thus if the requirement should be the type of thesis described in your first classification, then clearly the work which a number of our people have done would be excluded and a number of our men would have been denied the doctorate. It is clear also on examination of our Doctors' theses that the differences are not to be determined on the basis of what one might describe as the quality of the theses. Thus, in each of the three groups we have had very satisfactory theses, and I believe we have no disposition to deny these students the privilege to follow their interests in any one of the three directions which you name. Theses in educational psychology tend to fall in your group *a*. Theses on supervision more often fall in group *b* or *c*.

"While I am distinctly of the opinion that the quality of work required for the Doctor's degree can be improved in this

institution and in others as well, I doubt the advisability at this stage of setting too restricted a definition of what is acceptable. The whole field of education is a relatively new field for investigation, and its several units are not equally developed from the standpoint of scientific study. Some of them also are obviously more amenable to scientific research of the kind that prevails in the physical sciences and others much less so. The cause of education, however, is to be promoted by the encouragement of research over the whole field, using in every case the techniques that are adapted to the purpose and encouraging workers in every field to go forward with their research activities, both in the direction of developing more accurate methods of study and at the same time extending the application of known methods of investigation."

In the second quotation given among those of the heads of departments of chemistry, one might question whether the phrase "broad generalization," is a generalization which is clear to the student, or whether he simply collects the facts to be used by some faculty member in a larger piece of research. In the quotations from the departments of physics, there is a tendency to insist upon generalization in all theses. A somewhat different situation is revealed in English, the use of generalization seems quite restricted. The replies from deans of graduate schools, with one exception, show somewhat more liberal views than those expressed by heads of departments.

In the departments of education, common practice is to accept theses of all three types, *a*, *b*, or *c*, although there are some institutions where *b* or *c* would not be approved. Several of the statements received from departments of education give evidence of serious thinking on the entire problem. There is a wide difference, some institutions expressing a willingness to grant a Doctor's degree with little or no research, while other institutions consider the training in research as by all means the most important part of the student's work.

WHAT should be the standards for doctoral dissertations in education? The foregoing quotations indicate a wide diversity of views in different institutions. Is there any common ground on which some measure of agreement can be reached? The three following criteria are proposed as something more than a personal opinion; they represent fairly well the departmental policy of the writer's own institution.

First, the basic requirement of any research is a body of objective data. Speculation, a priori theorizing, or hypothetical statements are never substitutes for facts. Unless a problem is susceptible to factual treatment, it is not a suitable topic for research. There are such topics. Certainly, the possibility of scientific research on such a question as, "Does education through discipline produce greater individual satisfaction than education through freedom?" is doubtful. One may speculate and philosophize about this question, but it is difficult or impossible to find facts from which one may answer the question. It may be possible to do more than philosophize about the problem if one is willing to cease the exclusive use of opinions regarding satisfaction and to gather some objective facts from the observation of be-

havior of persons variously educated. This is not to be interpreted as a denial of the value of philosophical thinking, but rather as a vigorous objection to the substitution of such thinking for objective data. Furthermore, the process of dealing with a problem without first securing a body of facts is a different process from that connoted by the term "research."

Second, objective facts are necessary, but a simple tabulation of facts does not constitute acceptable research at the doctoral level. Until some degree of generalization is reached the project is unfinished. One might collect facts regarding any school practice and organize them into frequency tables, but until some general relationships among these facts are discovered the project is still incomplete. The nature of the generalizations may vary from field to field, but regardless of whether the problem be in the history of education, in administration, in methods, or in psychology, until some degree of generalization is reached the investigation has not passed beyond the bounds of clerical industry. Needless to say, much of this industrious routine work may be useful, but it is not research. The essential characteristics of the research worker are the intellectual insight necessary to see relationships which are not obvious to the lay observer and the ability to generalize concerning these relationships.

Third, a routine application of scientific principles to a practical problem is not research. For example, in one of the letters the location of school plants as a thesis problem was suggested. This might or might not involve research. If the commonly known rules relating to population centers, dangerous highways or railroads, and the like, only were applied to the selection of school sites, no discovery of new truths and no advancement of general scientific knowledge would result. This problem might be attacked, however, in a way which involved a high type of research. Through an analytical study of all the factors affecting the location of school buildings some new factors that generally affect the location of school plants might be discovered; a new technique by which to obtain or to interpret the facts gathered might be developed. The objection to many so-called "practical problems" is that they are merely applications of well-known procedures—the truth that is "discovered" is too often new only to the man who discovers it.

The term "research," as used in education, is in danger of losing its meaning. Instead of using the word to describe the contributions of those who have mastered the methods and techniques of scientific inquiry, it is used to cover almost any form of written production. Evidence to support this statement may be found in the materials listed in the last four annual bibliographies of research of the American Educational Research Association. The writer questions that use of the term "research" which is unfortunately gaining wide currency in educational circles, and he proposes further that the Doctor's dissertation is the last line of defense for research in education.

Printer's Copy for Master's Thesis

By CARL E. SEASHORE

IT IS a general rule that the doctoral dissertation shall be presented either in printed form or as printer's copy. Even at the doctoral level, this requirement is not so much for the purpose of rushing a new and valuable contribution to the world, as it is to force and test training in the scholarly accumulation of data and the power of deliberate and adequate statement of findings.

At the level of the Master's degree, preliminary opportunity may be furnished for the attainment of the same goal; but this is often overlooked, and essays of slovenly and undigested character are accepted as Masters' theses. The student presents a bulky tome often without any conception of what grains of new truth may be contained, without seeing the relative value in the mass of material or knowing how to state a scientific finding however small. To accept a common judgment, he has not used his brains; he has not submitted his material to a logical analysis for values; he has not been forced to give a critical appraisal of his findings.

In order to redeem the Master's thesis from this happy-go-easy trend, I have found that one of the most effective means is to make it known that the Master's thesis proper shall be presented as printer's copy. This means that after the material has been assembled in the usual manner, the student is required to select the best journal within his field of investigation and ask himself, "What is there in my thesis which might be acceptable for an article in this journal?" This forces him to a critical analysis and appraisal of his contribution. He is then required to state his findings in the technical terminology of that journal, having due regard for what should be said and what should not be said, good English, scholarly terminology, and clarity and action in style. This includes the method of references, meticulous detail in editing, and the verification of elements.

This printer's copy which constitutes the thesis may be short, for example, from 2 to 15 pages. It may not prove acceptable to the journal, but approach toward acceptability for printing should be the basis for the judgment of merit in the acceptance of the thesis. If it is acceptable, he should be encouraged to print it.

Copies which are submitted to the examining committee and are required for deposit in the library should contain a supplement which documents all manner of details in support of the thesis in the form of tables, arguments, criticisms, and supplementary data of the type ordinarily contained in the thesis; but the organization of this supplement furnishes the same

type of training as was furnished in the organization of the thesis itself.

There are several advantages to be gained by this style of the Master's thesis. It stimulates the effort to find out what really is the heart of the thing that has been found. It cultivates also critical judgment as to values in content, length, style, and channels for publication. It is as well an aid to the committee in judging to what extent this type of critical power has been developed by the small part which has been prepared with special care as fit to print. This type of preparation will, in many cases, lead to publication, and therefore becomes an encouragement to the writer; but, whether it does or not, it still furnishes the best type of practice in preparation for future writing. It is better training than the ordinary jumble that often passes for the thesis, because it requires the exercise of a higher type of thought processes and the need of literary and scientific taste. Limiting the thesis proper to what is printable makes the unit of work small enough to encourage most rigorous precision in performance. Publication of a brief note of this kind may serve the purpose of establishing priority. A suggestion for the doctoral dissertation has grown out of our experience with the Master's thesis: the policy is to require that supplementary material filed in the library shall be organized as a unit in itself and shall be referred to in the printer's copy by a list of the topics treated.

[Vol. III, No. 3]

Changing Orders

By BRUCE W. MERWIN

Curriculum Changes in Denominational Colleges of Kansas from 1870 to 1930

AS AN incidental feature of a study of college curricular development in Kansas, the changes appearing in the curriculums of the denominational colleges were summarized in an initial effort to show what had been the offerings of the church colleges of a single state over a comparatively long period. The courses listed in the catalogues of these colleges were compared, and the various trends were noted, for it was thought that these might indicate the direction of the future developments of the curriculums of these colleges.

The courses offered were counted, for it was often impossible to ascertain which courses had actually been given. This appears to be sufficiently accurate to indicate tendencies, however, since the ratio between work listed and work actually given was practically constant. The listed courses by ten-year intervals from 1870 to 1930 were translated for comparative purposes into semester-hours. The courses

offered were then grouped in thirty-six departments, and the work in each department of all the institutions was totaled and translated into terms of percentages of the total college offerings represented.

English literature, which started the period holding 2 per cent, reached its zenith in 1900 (7.3 per cent), while English composition, which began with 6 per cent, steadily decreased to 2 per cent by 1920 and has continued there. Part of the decrease during the last fifteen years (1 per cent) may be due in part to the introduction of journalism as an applied phase of composition, but interestingly enough the combined percentages of English literature and composition have continued to be 8 per cent of the total semester-hours throughout the sixty years except in 1890 and 1900, when together they were 11 and 10 per cent, respectively.

History among the social sciences fluctuated slightly (4 per cent to 6 per cent) but remained practically constant throughout the whole period. Political science decreased from 4 per cent to 1 per cent by 1910, but a decade later, doubtless partly due to the influences of the war, it moved upward again and is now at 2 per cent. Sociology since its appearance in 1890 has shown a constant growth until now it includes 3 per cent of the total semester-hours. The social sciences combined now total 11 per cent; at the beginning of the period, the hours for history and political science combined were 9 per cent of the total college time.

The offerings in economics from the inception of the subject in 1880 steadily increased, while business administration increased after the appearance of one course in Washburn College in 1910, until now it includes more than 2 per cent of the total college offerings. These percentages and similar figures regarding the other subjects are given in the table:

	Percentage of Total Semester-Hours			
	1870	1890	1910	1930
English literature	2	7	6	6
English composition	6	4	3	2
Journalism	..	..	..	1
Public speaking	3	2	3	3
History	5	4	6	6
Political science	4	2	1	2
Sociology	..	1	1	3
Economics	..	1	2	4
Business administration	..	..	..	2
Biology	..	..	1	5
Physiology	..	1	1	..
Botany	..	1	3	1
Zoölogy	1	2	4	2
Bacteriology	..	..	..	1
Astronomy	2	2	1	1
Chemistry	3	3	7	7
Geology-geography	2	2	2	1
Physics	4	3	2	4
Mathematics	15	13	8	5
Philosophy	6	6	4	2
Psychology	2	2	1	1
French	3	3	5	5
German	3	7	7	4
Spanish	..	1	1	4
Latin	17	13	8	5
Greek	17	14	8	1
Bible	3	4	7	1
Miscellany				
Manual training	1	1	1	2
Home economics	1	..	..	5
Education	..	..	5	5
Art	..	..	1	1
Physical education	..	..	..	3
Sundry	..	1	..	2

An interesting group of changes are shown by the biological-science subjects. Only zoölogy was given in

1870, and one per cent of the total college offering was devoted to it. Physiology and botany were added by 1890; biology by 1910; bacteriology by 1930, and, although physiology had been dropped, the total percentage continued at 9 per cent.

The allotments of total semester-hours to three of the physical sciences changed little in the sixty-year period; in fact, the combined percentages increased only 2 per cent—11 per cent to 13 per cent. Chemistry increased its share of time, however, from 3 to 7 per cent. Physics varied during the period, but in 1930 it had the same percentage it had in 1870; astronomy and geology-geography each lost one per cent.

The wave of popular favor toward practical subjects was shown in home economics, which increased from a negligible percentage in 1910 to 5 per cent in 1930. Similar tendencies were found in art, manual training, and, to a somewhat lesser degree, in education. Physical-education courses, developed during the ten years just previous, in 1930 listed nearly 3 per cent of the total college offerings. Religious education, the study of the Bible, was also affected by the swing toward the utilitarian. Work in this department increased from 1870 to 1910 and then decreased to 1930.

In the modern-language group, French showed a slight and irregular growth throughout the entire period, while the offerings in German increased until 1890, when this department ranked fifth in amount of work offered. After the World War there was a steady decrease until 1925, when less than 3 per cent of the work was offered in German. Five years later the amount offered had increased to nearly 4 per cent. Spanish made up less than one per cent of the offerings in 1910, but it has increased rapidly since the war.

The most noticeable changes in the percentages of total semester-hours are found in Greek which decreased in the sixty-year period from 17 per cent to one per cent; Latin which dropped from 17 per cent to 5; mathematics which fell from 15 per cent to 5; philosophy from 6 to 2. The following combined subjects equaled 97 per cent of the total semester-hours listed by the denominational colleges of Kansas in 1870:

	Percentages of Total Semester-Hours	
	1870	1930
English literature and composition	8	9
Public speaking	3	3
History and political science	9	8
Physical sciences	11	13
French and German	6	13
Greek	17	1
Latin	17	5
Mathematics	15	5
Philosophy and psychology	8	3
Bible	3	4
Total	97	64

With these percentages an interesting contrast may be noticed in the corresponding percentages for 1930 which totaled but 64 per cent of the total college offerings. To complete the 1930 schedule the following percentages must be added:

	Percentage of Total Semester-Hours 1930
Biological sciences	9
Economics and business administration	6
Sociology	3
Miscellany	18
Total	36

Subjects included under "miscellany"

are listed in the earliest table of this article. An interesting difference between the percentages of 1870 and of 1930 is shown by the fact that the range of single percentages in 1870 was from 1 to 17, while in 1930 the range was from 1 to 7 per cent. The increased variety of courses has weakened the power of any single course to demand a large percentage of the student's semester-hours.

Back of the shifts which we have noted may be seen the changing conceptions of education. Thus we have a shift from the practical to the speculative or classical, and back again to the practical. The change of the psychological basis for study is also depicted; for example, prior to 1900 the subjects listed indicated that the doctrine of formal discipline was generally accepted. One might go further and explain the status of all the offerings on the concepts of values held by the public. Thus in the earlier days of these colleges the vague aim of culture was accepted to be replaced later by a definitely utilitarian one.

· *With the* · Technicians ·

Predicting Academic Success

The question, Who shall go to college? was pressing enough before the present general curtailment of funds, but now with budget shortages and salary cuts this problem of enrollment has greater importance to university administrators and to the parents of students whose academic future is problematic. The question certainly has not been neglected by educators, for Mr. Harl R. Douglass in his monograph, *The Relation of High School Preparation and Certain Other Factors to Academic Success at the University of Oregon,* has a bibliography of 131 titles devoted to phases of the subject. One important contribution which Mr. Douglass makes is the assembling in the three tables of the coefficients of correlations between high-school marks and college marks and between intelligence-test scores and college marks, as well as the multiple-correlation coefficients obtained by other investigators, with the appropriate references to be found in the bibliography.

Mr. Douglass studied the records of 1,196 students of the University of Oregon, including for each student the following information: the average high-school mark in all subjects; the average high-school marks in English, history, mathematics, science, foreign languages, and vocational subjects; scores made upon American Council of Educational psychological examinations; certain ratings assigned by the high-school principal; the size of the high school; and the average salaries paid the high-school teachers. In his monograph he brings to each phase of the problem, as he discusses it, the evidence to be gained from other similar investigations. His conclusions, therefore, have added weight, and the reviewer cannot do better than quote them directly:

1. College marks may be predicted only roughly by means of any one type of data.

2. The best single type of prognostic data is the average high-school mark.

3. Increased accuracy of prediction is not obtained by considering men and women students separately.

4. Very little may be gained in accuracy of prediction by employing any of the variables included in this investigation other than average high-school mark and a good intelligence test.

5. The probable merit of a combination of these two instruments employed in a properly weighted regression equation is without question greater than that indicated by the multiple coefficient .63. When allowances for artificial homogeneity, lack of reliability in college marks, and other factors operating similarly are made, coefficients from .75 to .80 may be expected between these two variables and "true" college marks.

6. Judged by the degree to which individuals who will not achieve satisfactory scholastic records may be distinguished from those who will, the American Council of Education psychological examination is slightly superior to the average high-school mark.

7. There is no significant correlation

between the number of units of credit earned in high schools in any subject-matter field and scholastic success in college. The scholastic success of those students whose patterns of high-school credits [are] deficient in amount in any one of the various fields is to no significant degree inferior to that of their students presenting the prescribed credits.

8. Ratings by the high-school principal on ability to do college work, industry, leadership, and citizenship are materially and positively correlated with scholastic success in college especially in the case of the first of these (r=.48). They do not, however, make possible more accurate prediction than is possible without their use in case the psychological-test score and average high-school mark [are] known.

9. There is but slight relationship between the size of high school from which the pupil graduate[s] and [his] subsequent college marks, though the graduate of the smallest school achieve[s] slightly inferior . . . academic success.

10. There is apparently no significant relationship between the salaries paid members of the teaching staff in the high school from which a student graduates and his college success. The fact that the median college mark of students graduating from schools in which the lowest salaries are paid is slightly less than that of schools of high[est] salary categories probably means nothing more than that classifying by salaries paid is just another means of classifying schools by size.

State-wide testing programs including thirty-four thousand high-school Seniors were arranged in 1929 and in 1930 in Wisconsin. The various phases of the findings for 1929 are discussed by the authors, V. A. C. Henmon and F. O. Holt, in the pamphlet *A Report of the Administration of Scholastic Aptitude Tests* (Bulletin of the University of Wisconsin, Serial No. 1786), while the tables for the 1930 testing are given without comment in the Appendix.

Forty-five per cent of the 16,600 Seniors in 1929 declared their intention of attending college. Their average intelligence rating was 61.4 in contrast to the median of the whole group which, of course, was 50, while the median of the students who actually attended college that fall was 67. There were 369 schools in which the senior class enrolled 10 or more students. When these were divided into two groups, those with senior enrollments from 10 to 39 students and of 40 or more students, a statistically significant difference of 6.2 was found between the median intelligence ratings which favored the larger schools. The proportion of students in the highest decile was approximately the same for each size group. In the lowest decile, however, there was a markedly larger proportion of Seniors from the small schools. Sex differences in intelligence, the relation of intelligence to parental occupation, and the percentile ratings for different types of colleges are also discussed.

The test of the prediction formula which has been devised as a part of the continued intelligence-testing program at the University of Wisconsin is of particular interest. The records of a criterion group of 756 students belonging to the class of 1932 were studied to determine the power of the prediction formula to measure potential ability. It was found that 147, 19 per cent, of the group would have been excluded if the standard—a pre-

diction score of .40—had been enforced. The record of these 147 for whom failure was predicted showed that 123 failed to achieve the accepted performance level during the freshman year, while 24 did passing work. But of these 24:

6 withdrew at the end of their first year
2 withdrew at the end of their second year
1 was dropped during the second year
3 did not make a 1.0 average during the second year
5 did not make a 1.0 average during their fifth semester
1 dropped a year behind his class

Only 6 students—4 per cent of the 147, .79 per cent of the criterion group—have done uniformly successful work during their five semesters at the University. The authors state that "it is evident that failure to succeed in college can be predicted with an almost surprising degree of accuracy with the use of two available criteria" [in this case, the student's score on the American Council Psychological Examination and his rank in his high-school class]. It is the author's opinion "that ranks in class converted into percentiles to render them commensurable yield significantly better correlation coefficients than the high school average because of the variability of marking systems and standards in different schools."

Junior College Enrollments

There are only two states of the Union, Wyoming and Nevada, in which there are no junior colleges, according to Walter Crosby Eells in the *Junior College Journal* for February. Of the 469 junior colleges listed by Mr. Doak S. Campbell in the January number of the same *Journal*, 182 are publicly supported, while 287, or 61 per cent, are private institutions. The total junior-college enrollment in 1928 according to Mr. Eells was 50,529; in 1932 it is 97,631. During the five-year period there has been an annual rate of increase of 18 per cent. Two hundred two of the junior colleges have enrollments of less than one hundred; 130 more have less than two hundred; 111 more have six hundred; while 12 have enrollments between one thousand and five thousand.

Mr. Eells summarizes the information regarding the form of organization given by Mr. Campbell in the last column of his table in such concise form that it is repeated here:

Type of Junior College	Number	Percentage
6–year	29	6.7
4–year	28	6.5
3–year	2	0.5
2–year	368	85.4
1–year	4	0.9

Mr. Eells's closing comment is: "It is particularly gratifying to see the very small number of one-year junior colleges where there were formerly a considerable number of institutions which offered only a single year of junior college work."

Joseph C. MacKinnon, writing on "Graduate Engineering Instruction" in the February *Technology Review*, the Massachusetts Institute of Technology alumni publication, sums up figures on advanced degrees in engineering to prove that American engineers take their advanced degrees at home.

Before the war there was little graduate instruction in engineering or science in the United States. The student who wanted a Doctor's degree in science usually studied in Europe, while a Bachelor's degree was thought sufficient in engineering.

Just after the war, enrollments increased rapidly until 1922. The plateau in the enrollments curve lasted until 1928, when another increase began. In 1930–31, M.I.T. enrolled 22.4 per cent of the graduate engineering students in the United States (including students of science). According to the United States Biennial Surveys, M.I.T. has been awarding about 30 per cent of the combined Masters' and Doctors' degrees.

In comparison with the other institutions offering graduate work in engineering, M.I.T. awarded four times as many degrees as New York University, the second in rank, and more than the next seven institutions combined.

Other figures show that M.I.T. has been awarding about one-half of the degrees in aeronautical, chemical, and electrical engineering. Chemical and electrical engineering are the largest graduate departments.

Although in many instances graduate work in engineering may be really only a fifth year, employed to cover special topics for which there was not time in the undergraduate course, Mr. MacKinnon avers that the advanced degrees awarded by M.I.T. do not represent such extensions and calls attention to the fact that, since the present graduate enrollment of about six hundred is approaching the capacity of the Institute, the scholastic requirements for entrance were increased last fall, and the requirements for the Master's degree will be increased in June.

Language Tests

Frederic D. Cheydleur, of the University of Wisconsin, has presented a strong case for functional grammar in his article, "The Relationship between Functional and Theoretical Grammar," in the January *Modern Language Journal*. The selection type of French grammar test of the American Council was used in an experiment at the state universities of Minnesota, Iowa, Ohio, Michigan, Illinois, and Wisconsin, and the New York State Teachers College.

The two problems treated are that of correlations between functional-grammar tests and formal-grammar tests and that of the comparative effectiveness of learning grammar formally and functionally. Both are outgrowths of the Modern Foreign Language Study.

A simple yet comprehensive multiple-choice translation test which can act as an alternate for the grammar part of the American Council Alpha and Beta French tests was selected for this testing program. The reliability coefficient determined by the Spearman-Brown formula is .93. The correlation with teachers' marks (1,436 cases in eight semesters of college work) was .55.

Since French teaching majors make higher scores on the functional forms than do French majors, grammar apparently is stressed more in the teaching courses than in the non-pro-

fessional courses. Higher achievement was shown on the functional tests than on the theoretical, which seems to indicate that the student more readily acquires knowledge of functional than theoretical grammar.

The correlation between functional grammar and French knowledge is higher than the similar relations of theoretical grammar, making the former seem more indispensable to the mastery of the language, but a case might be made for formal grammar as a form of discipline in abstract thinking, although, with the high intelligence ratings which were found to be a characteristic of French majors, such training does not seem to be so important.

Mr. Cheydleur presents the results of the placement tests given in September to all students entering with credit in language who wanted to take university courses in the subjects in which they had been prepared, in the *Wisconsin Alumni Magazine* for January. The placement tests determine the college courses which are to be taken. Latin had the highest percentage of normal placements, 79.6, and no failures. Spanish had the largest percentage of failures, 5.8, and the lowest percentage of normal placements, 44.9. French results indicated that 32.5 per cent of the students taking the test should be advanced one or more semesters; 13.6 per cent of the Latin students, the lowest number in this respect, were eligible for advancement.

A questionnaire was sent in June, 1929, to eighteen hundred women graduates of the University of Kansas who were listed as married in the *Alumni Directory*. Usable replies were received from not quite 20 per cent of them. The purpose of this questionnaire was to discover women's opinions regarding the contributions of the university to the various aspects of their domestic life and also concerning the aids which the university might or should contribute through its curriculum to the American home. The findings of this study are summarized in the pamphlet, *The Experience and Opinions of 350 Married Women Graduates of the University of Kansas* (Kansas Studies in Education, Vol. II, No. 2), written by Florence Brown Sherbon and Emily Ferris.

In the opinions of these women a greater service to the home could be rendered by the university if courses devoted to the following five topics were added to the curriculum:

first, practical establishment, financing and management of the home; *second*, domestic relations of the members of the family such as marriage, family, pre-parental training, ethical culture, et cetera; *third*, child study including care and training; *fourth*, health of the family including feeding, sanitation and illness; *fifth*, scientific knowledge of reproduction, heredity, et cetera.

A College English Test

The Stanford Test in English for Junior Colleges has recently been prepared by W. C. Eells and David Segel and published by the Stanford University Press, Stanford University, California. This was designed as a general achievement test for

students who have had one to four semesters of English in junior colleges. The test is highly reliable, but the reviewer[1] is less certain of its validity as an examination for college English courses generally. The relative emphasis given to different objectives of English instruction vary from institution to institution. Hence, it is important that an examination which is to be used widely provide a valid measure of the student's attainment of each of these objectives separately so that the instructor in a given institution may determine the achievement of his students with reference to each objective in turn. If he wishes to get a composite score, he may then weight each part in accordance with the emphasis placed upon that objective. This gives him an opportunity to use a carefully constructed examination even though the goals of English instruction in his institution are varied from the conventional program. This also gives him a chance to discover not only that his students have done better or worse than others who have taken the examination, but in what respects their achievement is relatively superior or inferior.

The Stanford Test contains no indication of the objectives measured by it, nor are there separate norms for each type of English achievement by which the instructor might interpret the results more helpfully. There is only one form of the test which makes it less valuable in measuring progress. The test will probably be limited in its use to survey purposes where a rough index of English achievement is desired.

[1] This review was prepared by R. W. Tyler.

·The·Reporter·

As an emergency measure for the benefit of unemployed engineers, the faculty of the Engineering College of Ohio State University recently formulated a plan by which unemployed engineers will be able to audit, without fee, courses in the college during the Winter and Spring Quarters of 1932.

President Arthur S. Pease, who has been president of Amherst since June, 1927, has recently tendered his resignation to take effect at the end of the current academic year. He has accepted a professorship in Greek and Latin at Harvard University.

Because many students at Howard University, an institution of higher education for Negroes located at Washington, are having financial difficulties, each member of the faculty has pledged one day's salary for each of three terms toward an emergency loan fund for students.

The National Student Federation has just inaugurated a national student newspaper under the title of *World Student Mirror*, the first issue of which appeared late in December at a price of ten cents. No definite plan of publication has been agreed upon since there is some doubt as to whether the publishing can be financed. The new journal is concerned with student problems and with the development of more intelligent student opinion on questions of national and international importance.

A new journal in education appeared in January of this year under the title of *Educational Law and Administration.* It will be published quarterly by M. M. Chambers, who is also editor. The publishing office is located at 404 East Tenth Street, Kansas City, Missouri, and the subscription price is $1 a year.

The purpose of this new journal is

> to serve as an organ of research and a clearing-house of current information on the legal aspects of educational administration. . . . It reports statutes, judicial decisions, and administrative rulings affecting education.

The first number includes the following titles, "State Systems of Higher Education," "Junior College Legislation in Michigan," "Recent Judicial Decisions," "The Arkansas Education Law," "Government and Education," and "Bibliography of School Law."

Plans for the expansion of the School of Engineering, Columbia University, were announced in January by an expenditure of more than $20,000,000. When completed, the Engineering

School, it is believed, will become an engineering-center rivaling in size the present College Medical School. Already President Nicholas Murray Butler has selected faculty and alumni committees to choose a location and perfect plans. No date has been set for the completion of the project, and it is not expected that building will begin for several years.

In making this announcement President Butler observed that

> Columbia is fortunate in having avoided, or perhaps better in having outgrown, that lack of sympathy with engineering education and engineering research which has led so many of the universities of Europe to force this subject into separate and non-university schools, instead of accepting it, giving it full university rank and elevating engineering to the plane of a learned profession by the side of the older professions of law, medicine, theology, and teaching. The list of man's occupations and activities which rest upon a foundation of science and scholarship is not a closed list. The Middle Ages had their learned professions, and the twentieth century liberal university, while carefully preserving and exalting these, will add to them those other human occupations which can be lifted by university co-operation and inspiration from the planes of trades and vocations to that of learned professions.

In the February issue of *Harpers*, Harold J. Laski, of London, criticized the administration of American institutions of higher education and especially the office of president. Students of administration will be interested in another facet of the problem as expressed by President R. M. Hutchins, of Chicago, at the annual meeting of the American Association of University Professors, reported in the January *Bulletin* of that association. Under the title, "The Professor Pays," President Hutchins points out that the professor pays for the permanence of his tenure, he pays by having to do extension and summer-school teaching, by the multiplication of the staff, by the multiplication of courses, by the expansion of university offerings in all subject-matter fields, and by the wasteful organization of instruction and research.

An improved and more modern program of training students of the Pennsylvania State College better to prepare them for national-defense emergencies is planned by trustees of the college, President Ralph D. Hetzel announced in January. It is expected that the new plan will become effective with the fall opening in 1933.

Students may, under the proposed trustee plan, elect courses concerned with varied phases of national defense instead of spending all of the time that is now devoted to military instruction in actual drill. Elective courses would be provided, each related to the student's special line of study in the college curriculums. Officers of the United States War Department will be consulted in developing the new R.O.T.C. plan over the next year and a half.

Chemistry students, according to the proposal, could elect regular courses that would fit them for service in chemical warfare divisions; agricultural students could study animal management or receive instruction in emergency handling of food supplies;

engineers might elect studies in highway and bridge construction; military mapping and surveys, and mining students would find it possible to elect courses useful in the application of mining to modern warfare. The same opportunities could be offered through nearly every branch of college activity, it is declared. All male students, should the plan become operative, will be required to present credits in such courses as a prerequisite for graduation, but officials point out that they will be permitted to choose their instruction from a wider range of subjects than at present.

"There has been a growing feeling for some years," says a trustee report explaining the action, "that the present course in military training fails to prepare the student adequately for the post he will be called upon to play should the emergency of national defense arise."

AT THE last session of the legislature of Georgia a bill was passed providing for the reorganization of all institutions of higher education in the state, which comprise 26 colleges and universities under a central board of education for higher education. Mr. Charles M. Snelling has been elected president of the State Board of which the presidents of the 26 institutions are members.

WRITING in the January 30 number of *School and Society*, Dean Otto Heller, of the Graduate School of Washington University, proposes that efforts be made to establish the Master's degree as the teaching degree. In an article several pages long he defends his hypothesis observing that "this could be done without injury to its position as a halfway station between baccalaureate and doctorate and with decided benefit to the cause of teaching."

DUKE UNIVERSITY is not resting satisfied with the magnificent plant built at Durham, North Carolina, through the bequest of James B. Duke, but it is attempting to match scholarship with imposing structures and intellectual advancement with costly equipment. After having made good progress in strengthening the faculty by bringing in authorities in various fields, the administration turned its attention to revision of the curriculum, with the result that an extensive program of honors courses was being inaugurated for the 1931–32 session. In establishing this program Duke fell in line with other progressive institutions that are happily becoming aware of the changing problems of the American University, and is acting in the South as something of a pace-setter.[1]

The purpose of the system, as outlined by the special committee whose purpose it was to submit a program, was "to provide students with the opportunity for broad, independent, and intensive study in particular branches of knowledge that they may secure a higher type of general culture, or more adequate preparation for later work in teaching, research, or professional study than the regular program of work affords." According to Mr. W. K. Greene, Dean of the College

[1] This account of the honors courses at Duke University was sent to the JOURNAL by Mr. Robert A. Potter.

and Chairman of the Honors Council,

> the genius of the honors courses, consists of the supervision of the student in independent reading and study. The student, therefore, is given a great amount of freedom in the pursuit of knowledge in the particular field in which his interests happens to be.

Fourteen departments of the University are being included in the honors program: mathematics, psychology, religion, education, chemistry, history, economics, Greek, zoölogy, English, physics, German, philosophy, and Romance languages. Syllabi are being prepared for the various departments setting forth the requirements for honors, such as expectations for final examinations, plan for conduct of the course, fields to be covered, required and suggested readings, and laboratory work in the sciences. Approval of each syllabus, first by the Honors Council and then by the faculty, is required.

A student wishing to read for honors must make application to the Council before the end of his freshman year. General excellence in all courses or special excellence in the course or courses concerned is required of the applicant. When the student is accepted for reading for honors, he is assigned to the qualifying work by the departmental committee on honors. If he desires to continue through the sophomore class without choosing a particular honors course, he may do so providing that he meets the qualification requirements.

Each of the fourteen group committees submits to the Council the names and qualifications of those candidates who are adjudged as having such merits as to permit their proceeding with the honors courses during the junior and senior years. Students who complete their first two years of college work at other institutions may also be admitted under certain provisions.

Special advisers in each department are being appointed to work with honors-reading students; and these advisers report at the end of each semester to the Dean's office as to whether or not the work of the students taking honors is satisfactory. A student unsuited for honors work is removed from the list; and his credits may be transferred, if the group committee gives its sanction, to the regular department.

No examinations are to be given during the last two years of undergraduate work; but at the end of the senior year there will be comprehensive examinations, written, oral, or both. The student, upon completion of the honors course, shall be graduated with honors, notice of the fact being given at the commencement.

Requirements for graduations for honors are expected, of course, to be quite different from general requirements of graduates. The tentative requirement list calls for twelve hours of English, eighteen of foreign languages, sixteen of science, and six hours of Bible, of economics, of history, and of mathematics.

Members of the Honors Council with the departments of which they are at the head are: W. K. Greene, *chairman;* W. W. Elliott, mathematics; C. E. Zener, psychology; H. E. Myers, religions; Holland

Holton, education; W. C. Vosburgh, chemistry; W. D. Laprade, history; C. B. Hoover, economics; C. W. Peppler, Greek; G. T. Hargitt, zoölogy, Paul F. Baum, English; W. M. Neilsen, physics; Clement Vollmer, German; Alban Widgery, philosophy; and A. M. Webb, Romance languages.

PHI BETA KAPPA has inaugurated a new quarterly, the *American Scholar*, which made its first appearance in January. The editorial board, made up of an impressive group of scholars, has set up the following objectives: to promote liberal scholarship in America; to provide a medium for scholars and all persons interested in intellectual pursuits, higher learning and the cultural development of America; to provide a whole diet for the whole mind; and to present a synthesis of the arts college essential to liberal education.

In the first issue John Erskine writes as follows under the title of "The American Scholar."

It is at first hard to see why the American colleges have been so steadily abandoning the lovely architecture with which many of them began, and putting on instead the Gothic garment.

. . . . . .

In our colleges, in spite of the Medieval grip on them, the youngsters bootleg life. They would rather not bootleg it, they would rather be taught to study it frankly, and they would rather study their own life with its immediate problems than what seemed a problem to Shakespeare or some other writer of a far country or a distant time. The American scholars guide our youth so that the young people do not know what their own problems are. This is probably true, but their teachers ought to know; at least the teachers ought to be aware of *their* own problems even if they cannot imagine the problems of their charges. . . .

We must give a new account of the arts and their relation to the education and the daily life of average men and women. We are redefining the scope and the period of education, and we are uncertain about the future of organized religion. These and other problems immediate with us the American scholar ought logically to handle. Too often the problems of men die with them, and the problem which is only temporary deserves to die. What could be less lucky for scholarship than that it should continue to ponder the question which had not vitality enough to repeat itself?

Alvan E. Duerr writes as follows under the title of "The Fraternity and Scholarship."

There is naturally a difference in superficial circumstances as well as in some fundamental characteristics between the kind of men who join fraternities and those who prefer or are compelled to abstain. It is true that fraternity men are apt to come from homes which lack intellectual background and ambition, but the one simple reason why a majority of college men come from such homes is that an interest in intellectual things is not a predominant American characteristic. . . .

We started out five years ago to get the facts. We found that the scholarship of fraternity men justified the prevailing criticism, for in a survey of one hundred and twenty-five colleges at which five or more national fraternities had chapters, the group average of all fraternity men was better than the average of all men in only thirty per cent of these institutions.

. . . . . .

We have resorted to few rules and regulations, to little discipline; we have simply

tried to promulgate an idea and an ideal, and to change an attitude. . . . each year an improvement has been indicated. The second year forty-two per cent of the colleges of the country had better averages for their fraternities than for all their men; the next year forty-four per cent, then forty-eight per cent, and finally this year sixty per cent—the number of colleges included in the survey having grown in the meantime to one hundred and fifty-four. The composite fraternity average for the entire country started five years ago well under the line representing the composite All Men's Average of the same institutions; each year it has risen, last year it crossed the line, and this year it is even more decisively above. . . . The Interfraternity Conference includes in its membership practically every well-established national fraternity in the country, seventy-one in number.

President Mary E. Woolley, of Mount Holyoke College, writes the following under the title of "The Campus: Amusement Centre":

I am about to say something which I know is going to shock some of you. I would make the campus a recreational as well as an academic centre. Do not misunderstand me—I have not the remotest ambition to increase the recreational interests of the college at the expense of the intellectual. Any one who thinks that we need to foster the "urge"—I try to be up-to-date in my phraseology, you see—to amusement in our modern youth, is laboring under a delusion. Rather it is to substitute a *centripetal* for a *centrifugal* trend in amusement. The desire for recreation, for amusement, is there; it would be abnormal if it were not. Why not take this perfectly normal desire and make of it something constructive in our educational scheme? Why not check this procession away from our colleges, this procession to movies and clubs and week-ends to the tune of the honk of the motor? Why not make the college the magnet by attractive environment and by such provision of facilities for amusement that the result may be far-reaching in its influence upon the recreational life, the amusements of our American communities, even upon the home itself?

Speaking before the American College Publicity Association late in January, Mr. E. E. Free, editor of *This Week's Science* and science lecturer at New York University, told the Association that

funds for scientific research could be reduced at least 75 per cent without any harm. If scientific budgets were reduced it would force better planning. The whole activity of scientific research is grossly exaggerated. American universities have ten times as much money for scientific research as is good for them.

The new Institute of Biology, a five-story building costing $2,000,000, and which will be used by the departments of physiology, botany, applied biology, and zoölogy, has just been opened at Harvard. The building is considered to be the answer to a scientist's dream. It contains laboratories equipped with the most modern instruments and conditions for research. It has constant temperature rooms, soundproof rooms, photographic rooms, cold rooms, dark rooms, seminar rooms, special refrigerator plants, mechanical shops, libraries, and two large hothouses for botanical purposes on the roof.

· Editorial · Comments ·

THE article by Dean Haggerty, of the University of Minnesota, appearing in this issue of the JOURNAL reminds us of the careful investigations now being developed by the North Central Association of Schools and Colleges, the purpose of which is the revision of the current standards of accrediting used by that powerful association. Its officers have been conscious for some time that their formal criteria have become obsolete. In measuring the efficiency of a college the number of books in the library, which is now used as one measure, is, they believe, of less importance than the kinds of books and the uses made of the books by the students, neither of which is now measured. The size of classes, another standard, is not so crucial as the quality of instruction in the classes. The number of years of post-graduate schooling which the instructor possesses is of less importance than his grasp upon the subject-matter which he teaches and his skill in training students.

The Association has set itself the problem of discovering the essential factors which differentiate excellent colleges from those which are inferior. Then it will set up these essential differences as the criteria of accrediting to be applied by the Association. Dean Haggerty is one member of a small committee charged with the responsibility of setting up the criteria. The investigation is being financed by the North Central Association in co-operation with the General Education Board.

THE financial support of education has become a political issue. The problem cannot be settled by the professors in their studies. The issue is before the public and must be fought out in legislatures. No one loves taxes either in the abstract or in the concrete. In these hard times when cuts are necessary, legislative and executive bodies will use the knife on some agencies. Those that will be hurt most are those with the least powerful supporters. Education has powerful potential supporters, the millions of parents who believe in the open door of opportunity for their children and eager, public-spirited citizens who are convinced that the schools are an essential public enterprise. The problem is to mobilize the friends of education and to see that their wishes are presented to those persons who hold governmental positions of power.

The claim that education is the religion of America is now being tested, and educational leadership in the field of practical politics is imperative. Presidents of institutions of higher learning, boards of trustees, state superintendents of public instruction, city and county superintendents, boards of education, women's organizations, and friends of education everywhere must organize as a unit

within each state to see that the necessities of education will be safeguarded. This safeguarding of education will be not for the sake of the school system, but for the protection of the long-term interests of democracy and for the open door of opportunity for deserving boys and girls.

THE estimate is that over seventy per cent of the holders of advanced academic degrees engage in college teaching. The graduate school is thus in effect a teacher-training institution for those aspiring to be called "professor." Young men and women attend graduate schools if they wish to become college teachers, and there is no alternative for this term of apprenticeship in many of the fields of instruction.

As a teacher-training institution the graduate school is charged with the triple responsibility of making its students competent in scholarship, skillful in teaching, and wholesome in personality—the three characteristics of a good teacher. Until recent years most graduate schools have been concerned only with the first responsibility, developing scholarship. But more recently they have become conscious of their full responsibilities in the task of training competent instructors for college classes.

Mr. Coss's article in this issue is an illustration of this awakened interest in an important university to which others may be added. The reader will note that in the committee action reported by Mr. Coss a number of suggestions are presented to improve skill in teaching, which have a familiar sound to the trainers of elementary- and high-school teachers. Specifically, by paraphrasing the recommendations of the committee in the language of teachers' colleges, we find recommended the treatment of the function and structure of higher education, observation of teaching, training in service, supervision of teaching, and of teachers' colleges, we find recomdations represent the initial formulation of immediate steps that are practical procedures for one institution. Obviously, improved techniques may be evolved as the faculty continuously directs its attention to the problem of training. It is to be hoped, as they study the problems of teaching in their areas, that graduate instructors will discover methods of training which may be used by the older training agencies in the lower schools.

THE JOURNAL calls attention to the second part of the current yearbook of the National Society for the Study of Education, *Changes and Experiments for the Study of Education.*[1] Miss Kathryn McHale, director of the American Association of University Women, in collaboration with well-known college executives has compiled a list of colleges and universities which report changes and experiments in liberal-arts education which are now under way. One hundred twenty-eight projects in eighty-five institutions are described in sufficient detail to give the reader an understanding of the purposes and procedures of the projects. The range of the areas being investigated is wide.

[1] The Thirty-first Yearbook of the Society may be obtained from the Public School Publishing Company, Bloomington, Illinois.

The curriculum, methods of instruction, tests, guidance, admission, comprehensive examinations, orientation courses, honor courses, and work in fine arts are some of the subjects of investigation more frequently listed. This array of studies should be quite impressive to those critics of higher education who claim that the college is senescent. It indicates the healthy dissatisfaction of college faculties in a number of colleges and an intelligent interest in the discovery of improved procedures.

W.W.C.

..Reviews..

Work in the Sciences

LABORATORY INSTRUCTION IN THE FIELD OF INORGANIC CHEMISTRY, *by Victor H. Noll.* Minneapolis, Minnesota: University of Minnesota Press, 1930. xix+164 pp. $2.00.

The book is Volume III of a series of reports of investigations in the teaching of science at the college level, prepared under the supervision of Dean E. M. Freeman of the College of Agriculture, Forestry, and Home Economics of the University of Minnesota. Dr. Noll's study deals primarily with the evaluation of individual laboratory work as a teaching method in elementary college chemistry and, in a supplementary way, with the problem of finding a satisfactory substitute for some part of the laboratory work.

For at least forty years, laboratory work has been an accepted part of the course in elementary chemistry in most of our colleges and universities. The mere fact that the amount of time devoted to the laboratory phase of this course varies from three to six hours per week in the different educational institutions is prima facie evidence that the teachers of chemistry themselves regard the number of hours a moot question. Furthermore, a few chemistry teachers, in recent years, have through educational experimentation attempted to determine whether or not the laboratory part of the course could be completely eliminated to advantage.

Dean Freeman properly calls attention to the fact that laboratory work in the sciences is expensive from the standpoint of equipment and instruction; and also that in the "major professional colleges" . . . [a] "considerable amount of time, at least in the first two years," [are] "given over to laboratory work." Although not so stated, it is presumed that plant visitation, and its equivalent in the social sciences, is not considered laboratory work. The investigation was extended to include: adequate measures of ability, the effect of motivation, the effect of sex, and the effect of previous chemistry training in the high school.

This book presents a timely and worthwhile discussion of laboratory instruction and the results of experiments upon this phase of science teaching. As is implied in the last paragraph of the conclusions, the investigation must be regarded to a large extent as preliminary in character. This is unfortunate, as some of the weaknesses of the research should have been foreseen from the work of previous investigators. Lack of tests for reliable equalization of groups, small numbers in experimental groups, and failure in some cases to provide for the equation of instruction, which obviously may vary with the ability of instructors, are among the outstanding difficulties which decrease the importance of the obtained results. It would be quite interesting to have the significance of differences reported in terms of weeks of instruction or some social measure rather than the formal statistical measures. The series of experiments reported furnish valuable examples of methods of attack in scientific investigations of instructional procedures. The study, showing the extent of chemical knowledge obtained from high-school chemistry and its final loss of effect in college, presents one of the most definite problems derived. The fact that a thorough attempt to evaluate methods of instruction in chemistry is unable to show any positive substitute for laboratory instruction is the outstanding conclusion of

importance to science teachers and educational administrators.

R. W. Edmiston
George Peabody College for Teachers
J. E. Day
Ohio State University

An American Educator

Henry Barnard on Education, *by John S. Brubacher.* New York: McGraw-Hill Book Company, 1931. x+298 pp. $2.25.

Under such headings as "Public Interest in Education, Its Extension and Stimulation," "Sociological Factors Conditioning Education," "General Aims of Education," "Grading of Schools," "Public and Private Schools," "Methods of Instruction," "The Curriculum," "Teachers," and "Educational Administration," Professor Brubacher reproduces passages from Henry Barnard's reports and other writings. The compilation provides a convenient single-volume collection of sources. A brief but appropriate essay introduces the book.

Robert Francis Seybolt
University of Illinois

Pioneers

Pioneers of Women's Education in the United States, *Willystine Goodsell, Editor.* New York: McGraw-Hill Book Company, 1931. viii+311 pp. $2.25.

To every student, interested in the history of women's education (and who should not be interested in that, if one is interested at all in the educational developments of nineteenth-century America) this volume is indeed a welcome one. It has often been the practice, in years gone by, to devote little attention to the female line of our educational ancestry, reserving the space and time that a just historical presentation should have given to women pioneer leaders to a more than just attention to a few persons, males, who fitted into the scheme of a stereotyped educational history. The tendency to learn too heavily on the "sturdy oaks" of our educational past is, happily, now being somewhat modified; and the "clinging vines" appear, upon investigation, to have had some importance in and of themselves. In fact, they appear no more as "clinging vines" than do their modern emancipated sisters. They were, indeed, the first examples of emancipated American womanhood, despite the fact that they looked askance at politics, which they were prone to regard as the province of men only. Though they did shun politics, it is nevertheless true that, by means of the educational emancipation of women to which they contributed so notably, they paved the way inevitably (though, mayhap, unintentionally) for the entrance of women into political life.

Viewing these women pioneers from the standpoint of this great social and political transformation, which they markedly advanced, and considering that the obstacles against which they struggled were of far more formidable proportions than those that barred the path of male reformers of the same period, it is difficult to see how their posterity can rate theirs less than the greatest names of the period of educational awakening. Any one of the trio here presented, Emma Willard, Catherine Beecher, and Mary Lyon, might with justice, if not with modesty, have boasted of their position in the educational fraternity, but they were too modest. Today, if they were to see the harvests that have ripened from their planting they still would not praise themselves. Miss Goodsell does not, either, not in so many words, at least; but she does better than that, perhaps, giving everyone who will take the pains to read her book the opportunity of knowing the rôle these women played in American education. Herein she sets forth, first, a readable sketch of the life of each subject; and, second, the text of the most important, in some cases almost all, works produced by each. The greater part of these documents

have not been easily accessible to all students; it is the chief merit of this volume that it makes them so, in a decidedly attractive and useful form.

THOMAS WOODY
University of Pennsylvania

Students' Problems

THE COLLEGE STUDENT THINKING IT THROUGH, *by Jessie A. Charters.* New York: Abingdon Press, 1930. 166 pp. $1.50.

This is a book for college students written by one who for many years has had intimate teaching contacts with students in universities in Washington, Illinois, Missouri, and Ohio. The problems which are discussed are selected from actual problems asked of the author by students. Over one thousand four hundred students shared in stating these problems, and selection was made from over five thousand problems on file. Thus the author is justified in saying, "But these problems are yours, and it is to you . . . that this book is addressed."

The first half of the book has to do with problems of religious experience. It takes up such matters as a philosophy of life, religion, faith, and conduct. The second half of the book has to do with problems of personality. The treatment of each problem begins with several quotations taken from the papers and letters of student questioners, and then develops a consideration of the problem which will help the student to take into account the more important data bearing on it. The treatment is never dogmatic, but as the title implies, is calculated to help the student do his own thinking. Here is a typical quotation: "If you are afraid that you must lay aside your childish faith in God's listening ear, do not foolishly cling, and yearn for the past which is no more. Come face to face with the facts . . ." The book is marked by a deep appreciation of fundamental religious values and a desire to help the student think himself through to a sound foundation in his own faith.

Whether used for individual reading or as a guide for discussion groups, this book will be found usable, wholesome, and valuable. It is sound educationally and constructive religiously. It is the sort of book one wants to give to a very dear friend in college who is trying to think himself through the great problems of life.

PAUL H. VIETH
International Council of Religious Education

A Comprehensive Text

THE JUNIOR COLLEGE, *by Walter Crosby Eells.* New York: Houghton Mifflin Company, 1931. xxviii+833 pp. $4.00.

Everything that a six-months-old baby does is important—especially to its mother. It is natural and proper, therefore, that this book should be voluminous. In it are brought together, in effective organization, most of the important quotations concerning the junior college and the essentials from about all the studies which have so far been made in the junior-college field. The volume has resulted from the author's preparation through a series of years of a college course on the junior college. It is a textbook, and it will be found eminently satisfactory by teachers desiring to use a textbook in such a college course.

The book has three parts: first, the "Development of the Junior College" which treats in twelve chapters the history, definitions, and functions of the junior college; second, the "Organization and Administration of the Junior College," which treats in ten chapters such topics as the instructional staff, the physical plant, the library, the curriculum, the problems of finance and student activities; and third, the "Place of the Junior College in American Education" which treats in six chapters the questions of the reorganization of American education, the four-year junior

college, the two-year junior college, and the effect of the junior-college development on other higher educational institutions. In this third part, the author enters frankly into argument with respect to the controversial aspects of the junior-college development. He does so, however, as one who has had much first-hand contact with the junior college, who believes in it, and who is in possession of more facts about it than most any other man. Excellent bibliographies and suggestive topics for further study appear at the end of each chapter, and a carefully selected general bibliography is given in an appendix.

For busy individuals who want to be able to get the facts about the junior college without the labor of searching through a library, this comprehensive textbook should prove valuable. If any point seems insufficiently treated, references are always given which indicate the sources.

FRED J. KELLY
U. S. Office of Education

Prediction

ACADEMIC PROGNOSIS IN THE UNIVERSITY, *by Harold A. Edgerton.* Baltimore, Maryland: Warwick and York, 1930. vii+83 pp. $1.88.

Mr. Edgerton's research monograph outlines a system of cumulative academic prognosis as worked out at Ohio State University. The central objective is to predict junior-college scholarship (honor-point ratio for six quarters of college work) on the basis of intelligence tests at entrance and then to prepare new and more accurate predictions at the end of each successive quarter by adding to the intelligence-test scores the quality of scholastic work completed in each quarter. The development of such cumulative predictions is made possible by the use of multiple-correlation techniques and partial regression equations.

Edgerton shows that he is a master of intricate and elaborate statistical methodology. Furthermore, he shows how these methods may be put to work in a practical manner to the end that college personnel officers may predict probable scholastic attainment for individual students with a minimum of error. The book will long serve as a model for scholastic prediction work and should point the way for the extension of cumulative scholastic prognosis in the elementary and secondary levels as well as at the college level.

DONALD G. PATERSON
University of Minnesota

Problems of Learning

HUMAN LEARNING, *by Edward L. Thorndike.* New York: Century Company, 1931. 206 pp. $2.25.

About half of this book is a reconstruction of facts and principles formerly presented; the other half consists of the results of new investigations made from 1927 to 1930. The discussion is keyed to lay intelligence of a rather high order, since a technical account will also be published.

The newer investigations involve basic experiments on certain moot points in learning. First, the mere frequency of occurrence of a situation does not cause learning; secondly, the frequency of a connection plus belonging of some sort does cause learning, but slowly. Both these statements assume that neither "satisfying" nor "annoying" after-effects play a rôle in the learning. Three chapters are then given to data and discussion on the influence of such after-effects. Assuming other things as equal, the announcement "right" (a satisfier) does strengthen a connection that it follows and belongs to; "wrong" (an annoyer) does not correspondingly weaken the one which it follows and belongs to; satisfiers are positive strengtheners of connections; annoyers are not, in general, weakeners. They probably merely indirectly inform the learner "that such and such a response in such and such a

situation brings distress." Certain new experiments are adduced as a useful addition to our knowledge of learning and as calculated to refute learning theories depending on "frequency, recency, congruity, facilitation of a consummatory response or of some other form of activity, or the rehearsal or revival in memory of the right response or of its after-effect" as causes.

The foregoing is not only an inadequate sampling of the newer findings revealed by Thorndike's experiments, but wholly neglects his re-discussions of (*inter alia*) such significant topics as ideational learning, thinking, and reasoning, and the evolution of learning. Full understanding of the book involves some technical initiation into the problems of the learning process. The reviewer could have wished, for layman consumption, particularly since the results are to be given technical recording elsewhere, that the text had been blocked out more in terms of general discussion, with a few illustrative samples of experiments, and somewhat more attention to suggestive applications of the experimental findings to the layman's problems.

E. George Payne
New York University

Teaching

The Lecture in College Teaching, *by Charles L. Bane.* Boston: Richard G. Badger, 1931. 128 pp. $2.00.

Since the advent about a decade ago of open hostility to the use of the lecture method in college education, there has gradually emerged among college teachers an apologetic for the method when fortunately applied. This book is an effort "to reassert the claims of the lecture as a teaching device" in the light of an appraisal of it.

The author begins by summarizing such experimental evidence as there is regarding the effectiveness of the lecture (defined as that method in which the instructor does all the talking) as compared with several other methods involving more active student participation in the classroom. Most of the experiments quoted use psychology as the subject material, and while the author regards them as inadequate, they "indicate that the lecture is much better adapted to giving information for immediate use than for rendering its acquisition permanent." The conclusion is that the studies show three facts that have a significant bearing on the use of the lecture:

> [First,] Experimentation affords no basis for the wholesale disapproval of the lecture.
> [Second,] The chief advantage of the lecture is that it is an economical way for imparting information for immediate use.
> [Third,] The greatest defect of the lecture is that it does not make for the retention of the material taught and needs to have safeguards worked out for it in this respect.

The second of the five chapters is devoted to the quotation of criticisms of the lecture method by noted educators and by students. In the third chapter, the author sets forth "various procedures for avoiding the defects mentioned . . . and securing the points of advantage exemplified in the best lecture." In the fourth chapter will be found "brief characterizations of a few typical men who have been widely known as skilful lecturers," while in the final chapter "a few safeguards are sought for rendering the lecture in a general way more effective."

This little book should be widely read. It reveals the ease with which sweeping and often erroneous conclusions have been reached by college teachers and students concerning the ways in which education should proceed, and it presents in simple form some of the more obvious aspects of the educative process which need study by the college teacher. One should not be deterred by the fact that the book abounds in typographical errors.

Donald Peery Cottrell
Teachers College, Columbia University

In the Lay Magazines

"The American College President," by Harold J. Laski, *Harpers*, February, 1932.

A professor of political science from the University of London who has had several years of teaching experience in American colleges is the author of this denunciation of the American one-man control of universities. Mr. Laski briefly summarizes the European situation and finds that there is no institution where a similar condition exists.

In America the name of Eliot is as inextricably bound to Harvard as his policies are delineations of the school; the Harper epoch at Chicago is a definite period. Strong college presidents undeniably shape both intellectual and material development of the entire university.

Mr. Laski's thesis is that the existence, the possibility of such an aggregation of power in the hands of one man, is undesirable, *per se*. He declares that this power is "only dubiously helpful," that the position does not develop the best results in scholarship, and that such a condition is a hindrance to academic freedom.

No one man is able to assume the enormous responsibility of the connecting link between the Board of Trustees and the faculty as the American college president fills—with the exception, of course, of the "great" presidents.

> If the President is a weak man, some trustee, or group of trustees, will dominate his policy, or he may be the pathetic mouthpiece of the energetic wire-puller on the faculty. If he is a strong man he will use his trustees as a screen to secure additional protection to his personal policy.

From the frantic scrambling of the president to curry favor with foundations, the frantic dangling of honorary degrees before the noses of the famous by the Board of Trustees, to the still frantic politics of the young teacher who must plot just when a threat to move would mean a salary raise—or an acceptance, Mr. Laski pictures it all with a none-too-pleasing result. His charges cannot but arouse thought in the mind of the speculative reader.

An odd inconsistency, however, appears in his advocacy of greater permanency of tenure for teachers in order that their thoughts—and utterances—will not be at the mercy of the Board of Trustees, yet Mr. Laski urges that presidents be kept on short appointments to "prevent him from becoming an autocrat; and the fact that he owed his position to his academic colleagues would prevent him from becoming dependent upon non-academic trustees."

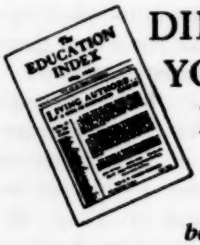
"The Great Fact-Finding Farce," by Lillian Symes, *Harpers*, February, 1932.

Illustrating her point with an incident from actual experience in the bituminous-coal district where a little colorful writing in addition to the date of a great survey would have translated unreadable figures into an understandable description of conditions, Mrs. Symes points a moral that may be applied to other fields as well: a mere mass of figures and facts is not always a significant description of an actual situation.

"The Jargon of Psychology," by W. Béran Wolfe, *Forum*, February, 1932.

Dr. Wolfe is a medical doctor and as such (and we suspect, in behalf of his profession) he condemns those who practice treatments of the "science of the soul" armed only with academic psychology or even a Ph.D. He charges that many "so-called psychologists do nothing but make mental tests of one sort or another" and so he would call them "psychometrists" for they are really measurers of behavior according to certain arbitrary tests and scales.

The "unknown wag" who first mentioned the "psychological moment" is roundly scored by Dr. Wolfe, who seems to be greatly aroused because dementia



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precox, libido, introversion, extraversion, schizoid, and inferiority complex have gone from the bounds of the purely technical medical vocabulary into part of the layman's phraseology.

No solution is offered—and the final impression is that, once Dr. Wolfe's choler is cooled, this is only a situation like many others in education where unfortunately minor phases have been widely publicised and popularized.

"Our Class Distinctions," by Katharine Fullerton Gerould, *Yale Review*, Winter, 1932.

After a quite elaborate discussion of various class distinctions and all sorts of snobbery, Mrs. Gerould makes interesting comment on the educational snobbery of the United States, where she alleges that it is thought that if a man has a college degree he must be someone.

> Leaving aside wealth, I know of no qualifications so widely held desirable as education. If it were not so, we should not have the pathetic adherence to the kind of instruction that Mr. Flexner has no nakedly exposed in his recent book on universities. . . . The rolling stone who could not keep his moss could keep his literacy; moreover, America saw to it that the humblest could make his children literate.

"No Students on the Barricades," *Outlook and Independent*, January 6, 1932.

Nicholas Murray Butler's annually vigorous reports, nominally on Columbia University, this year specifically concerned with the "manners of youth and the hypocrisy and example of age," are the subject of comment by the editors of the magazine. The importance of student sentiment in political and social affairs is rather poohpoohed by these writers who aver that the "land of the free and the brave" is not one where the college generation feels itself charged with responsibility for the future of their country.

FRANCES KIRKPATRICK

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